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WORK-RELATED STRESS AMONG CERTIFIED REGISTERED ANESTHETISTS IN GREATER ACCRA REGION

BY

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DECLARATION

I, Dorcas Mavis Edem Sabblah hereby do declare that this dissertation is a self-composed work. It is the result of an independent study. Apart from references to other research works indebted which have been duly credited, I declare that this work has not been submitted or accepted for any other degree in any institution.

…… **……** **14/11/22**

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DEDICATION

This work is first dedicated to the almighty God for the strength and favor granted me to put this research work together. Secondly to my husband George Tsey Sabblah and children Seyram, Elorm, Klenam and Aseye for their immense support.

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LIST OF ABBREVIATIONS

GHS	-	Ghana Health Service
MOH	-	Ministry of Health
CHAG	-	Christian Association of Ghana
CRAs	-	Certified Registered Anesthetists
GAR	-	Greater Accra region
WHO	-	World Health Organisation
ICU	-	Intensive Care Unit
TSH	-	Thyroid Stimulating Hormone
GIT	-	Gastrointestinal tract
DCCRAs	-	Deputy Chief certified registered anesthetists
PCRAs	-	Principal certified registered anesthetists
SCRAs	-	Senior certified registered anesthetists

ABSTRACT

Background and Aims: Stress is anything that puts individuals into a state of physical, and psychological imbalances. Stress can occur in people at different locations and at different times. Stress has a great impact on the health of every individual who works to earn a living. The study aimed to assess work-related stress among certified registered anesthetists (CRAs) practicing in the Greater Accra region(GAR), to determine the factors associated with work-related stress and the work-related stress coping strategies adopted by the CRAs.

Methods and Materials: This study used convenience sampling techniques to solicit data from 198 participants. A Google form questionnaire was adopted and distributed to the participants through WhatsApp. A descriptive statistic was used to analyze data generated from the respondents. Data was analyzed using frequencies and proportions to describe the categorical variables, bivariate analysis (Chi square) and ordinal logistic regression were done to describe continuous variables in STATA 16. A p value<0.05 was considered significant.

Results: The majority of CRAs experienced moderate level of stress. The level of stress among the CRAs was significantly influenced by the type of health facility and working with inadequate or sub-standard equipment (p <0.05).

Work-related stress coping strategies adopted by the CRAs to reduce stress included denial of guilt, substitute gratification, situation control, escape, positive self-instruction and peer support.

Conclusion: The certified registered anesthetists undergo moderate level of stress due to the type of health facility and inadequate resources or substandard equipment to work with. CRAs should undergo educational programs and counselling in order for them to be aware of the high demands on their job. With this type of education and guidance, they will understand the demands of their job description.

Hence it is recommended that CRAs should be well equipped with proper resources or standard equipment to work with. Again, CRAs should be well motivated at the facility levels to reduce the stress level.

CHAPTER ONE

INTRODUCTION

1.1 Background

Work-related Stress in certified registered anesthetists (CRAs) is a major phenomenon that leads to their health problems and reduces their work performance. This type of anesthetist work is known globally as the most stressful profession which has a bad influence on their physical and psychological health. (Onasoga et al, 2013). Work-related stress is so important to the employers since it affects the effectiveness of the workers and their work performance leading to low job satisfaction (Moustaka & Constantinidis, 2010a). Stress is the relationship between people and their physical environment which makes individuals' life unbearable and hence affecting their health in a negative way. Stressors are phenomena which bring about reactions in a physiological way such as fast heartbeat, high blood pressure and increased pulse rate. In a psychological way, individuals get anxious, frustrated and angry when they come into contact with stressors (Adzakpah, 2016). Stress can make individuals develop mental consequences like severe anger on his/her family, unhappiness, unnecessary thinking and lack of sleep at night. However, when the individual is going through too much stress with the above problems, it can make one to age early which comes with its signs and symptoms like developing gray hairs. The stress hormone cortisol which is produced by the adrenal glands increases leading to sadness, withdrawal symptoms and inflammations when the individual is exposed to stress. Moreover, stress results in musculo-skeletal pain, severe headache, joint pains and

nonspecific general body pains. “Low immunity which is a high risk of infection and allergies are all caused by stress. Slow recovery from diseases or wound healing are all factors of too much stress (Dhabhar, 2014).

Again, when someone is anxious, it makes the individual eat unnecessarily which can cause high blood sugar and increase salts intake in the system leading to both diabetes and high cholesterol level in the blood resulting in high blood pressure. This high blood pressure called hypertension causes sudden death, stroke, cardiac failure and kidney failure in the individuals who are seriously exposed to stress. “The negative multiple impact of stress on human health has been a course of alarm, thus it is so important to be sure we do not encounter stress. It is difficult, but with the help of loved ones, meditation, yoga and living a healthy lifestyle can help fight this stress.

On the other hand, the tasks of anesthetists involve monitoring patients before, during and after anesthesia in order to counteract any adverse effect or complications during surgery. The anesthetists record the amount and type of anesthetics drugs given to the patient throughout the procedure. They provide and maintain life support and airway management, and help prepare patients for emergency surgery. Administration of anesthetic or sedation during medical procedures, using of local, intravenous, spinal or caudal methods. Examining of patients, obtaining medical history, and using diagnostic tests to determine the risks of patients during surgical, obstetrical, and other procedures are the tasks of anesthetists. Again, positioning patients on the operating table maximize patients comfort and surgical accessibility, coordinating administration of anesthetics with surgeons during operation, deciding when patients have recovered or stabilized enough to be sent to recovery ward or to be sent home following outpatient surgery. Conferring with other

medical professionals to determine type and methods of anesthetics or sedation to render patient insensible to pain and ordering laboratory tests, x-rays and other diagnostic procedures.

According to the Mojoyinola (2008), stress is a worldwide epidemic because it has recently been linked to 90% of doctor visits (Mojoyinola, 2008).

Previous studies confirmed that stress related to work has been a leading cause of health problems among nurses which comes with causes such as demoting of staff position at work, reshuffling of their jobs and making their roles so difficult for them to bear (Nedd, 2006). Studies conducted by Adzakpah (2016) stated that work related stress decreases work productivity, putting pressure on the employers to invest more resources and hence making individuals unwell from those pressures.(Adzakpah, 2016).

1.2 Problem statement

Despite the fact that we need to work and earn a living, should not give us the cause to go through this stress. Stress causes a great impact on the health of the individual. This includes the impacts on their heart that is exposed to so many stressors that can cause cardiovascular disease. This is because stress causes anxiety, sleeplessness, and too much thinking which works on the heart (Mojoyinola, 2008). Stress associated with certified registered anesthetists is a psychological and physical event that occurred during their work time and their interactions with the environment in which they find themselves. That's the hospital setting where the workload is more than they can carry '(Huey-Ming Tzeng, 2002). According to Govender (2012), healthcare professionals, including doctors and nurses have high prevalent in stress and burnout. Work-related stress levels in the

general labor force estimate 18%, while doctors have a rate of around 28%. 34 (51%) of the 67 doctors in the study were found to be stressed, and 18 (27%) were found to be extremely stressed (morbidly stressed)(Govender et al., 2012). This outcome was contrasted to figures obtained by Govender in an earlier study conducted among private general practitioners in KwaDukuza, KwaZulu-Natal, in which 38% of the subjects were stressed according to the GHQ-12 and 23% were morbidly stressed. Stress in doctors can have a variety of negative consequences. Early detection of stress may benefit doctors, their families, and the patients they care for (Govender et al., 2012). From the journal of anesthesiologists, a study conducted in Indian indicated that stress was higher in anesthesiologists who worked long shifts, on weekends, and on high-risk patients (Bakshi et al., 2017). The impacts of stress on people at different levels of work is very important to address. The stress that is associated with work, especially with anesthetists, is very alarming. This stress makes individuals unable to perform well at work, projecting of anger from work onto their households, committing errors at their workplaces, commitment to work is nothing to write home about and sometimes depression set in leading to suicidal attempts when the stress level persists for a longer period of time. Work related stress are the main factors affecting health workers especially, this leads to lack of job satisfaction, decrease production of work and the general performance of workers (Koinis et al., 2015). Some studies have indicated that stress in some jobs has a great impact on the health of workers. Even though some studies also indicated that anesthetists go through stress, they do not look for ways of reducing the factors that expose them to that stress. Factors that cause stress mostly are work-related stress, poor economy, increase number of children at home to feed, the pressure from wives or husbands, pressure from bosses at work and family issues. Stress contributes massively to individual well-being. When the stress is left

unconcern, it can lead to serious health problems like major mental health problems for workers, and affect their job performance leading to collapse of private or government organizations. Good stress management among certified registered anesthetists is aimed at balancing their schedule and helping them to manage how to cope at work. Work-related stress is well known across the globe as a big problem to workers' wellbeing. The environment where the certified registered anesthetists find themselves are the main assets of work related stress (Moustaka & Constantinidis, 2010b). According to global data, a huge number of individuals are suffering from mental illnesses due to stress and research done globally also revealed that anesthetists suffering from stress is a global happening which is the main cause of their low performance. Loads of work from difficult bosses also lead to the consequences (McPherson & Armstrong, 2021). According to Freedenberg et al., (2017), 48% of participants worldwide said they had experienced more stress in the past one year. According to Bakshi et al. (2017), the majority (47%) of anesthesiologists reported feeling drained out at the end of the working day on numerous occasions. In the morning, 27% reported feeling tired and fatigued. A small percentage (14%) felt they had stopped caring and had become callous toward patients. The participants reported feeling tired and fatigued in the morning before work, being used up and drained, caring less and being callous toward patients as a result of stress (Bakshi et al., 2017). Adzakpah (2016), has studied occupational stress amongst health care professionals in general in Ghana however, there is no specific study conducted on certified registered anesthetists. For that reason, this study seeks to assess work-related stress among certified registered anesthetists (CRAs) who are legally practicing in hospitals in Greater Accra region, to determine the factors associated with work-related stress and the coping stress strategies adopted by the CRAs (Adzakpah, 2016).

1.3 Problem Justification

This study is paramount because almost all workers globally, nationally, and locally experience stress in one way or the other. This study will give us more detailed information on the work-related stress and stress level of CRAs, the factors associated with the work-related stress and the work-related stress coping strategies adopted by the CRAs. Policy makers, government, non-governmental organizations and other organizations will help in dealing with stress issues by setting guidelines and laws on stress management and counseling for the safety of Ghanaian workers. This will again help the employers know about the low productivity and poor performance of their workers due to their stress level and hence can affect the organization and the country's remuneration.

1.4 Significance of the study

This study is paramount because it will help policy makers, governmental, nongovernmental and other organizations to be aware of the work-related stress on their employees. This will also help in formulating work regulations which are health appropriate and safe. Also this study will help CRAs and their employers identify key factors that lead to stress and some work-related stress coping strategies for the CRAs.

1.5 Research questions

1. What is the level of work-related stress among CRAs in the Greater Accra region?
2. What are the factors associated with work related stress among CRAs in the Greater Accra region?

3. What are the work-related stress coping strategies adopted by the CRAs in the Greater Accra Region?

1.6. Objective(s)

1.6.1. General objectives

To assess work- related stress among CRAs in the Greater Accra region (GAR).

1.6.2 Specific objectives

The general objective of the study was achieved by identifying these specific objectives.

1. To determine the level of work-related stress among CRAs in the Greater Accra region (GAR).

2. To identify the factors associated with work-related stress among CRAs in the Greater Accra region. (GAR).

3. To identify work-related stress coping strategies adopted by CRAs in the Greater Accra region.

1.7. Outline of the Dissertation

The study is grouped into six (6) chapters. Chapter one to chapter six. Chapter one shows the background of the study, problem statement, and justification of the study, signification of the study, objectives and research questions.

Chapter two consists of literature review, which are mostly taken from other peoples' work or scholars on stress.

Chapter three is the main chapter for methodology which consists of study area, study design, study population, study sample, sources of data, data collection instrument and data analysis employed.

Chapter four is the results from analyzing data collected from the participants. Chapter five also talks about discussions on the findings obtained from the results and then compared with the findings from previous studies. Finally, chapter six talks about the conclusions and recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Definition of stress

According to Arnold et al. (1995), stress is a word derived from the Latin word "Stingere," which means "to draw tight." It is regarded as a physical or psychological force psychological factor beyond its range of stability, causing a strain within the individual. The process by which environmental factors cause stress is known as stress. It is an emotional and physical reaction to environmental aversive stimuli (ARNOLD et al., 1995) Stress, according to Selye (1976), is a state of mind within the organism characterized by general adaptation syndrome. In other words, it refers to the body's imprecise reaction to a pressure put on it. It denotes heavy demands that disrupt physiological, sociological, and psychological systems(Selye, 1976). Previous studies indicated that Hans Selye in 1982 described stress as a type of force that results in the development of tightness or tension on the human body. For example, if a force is given to a substance for an extended period of time, it will eventually split into two due to the tension placed on it (Tan & Yip, 2018). He again stated that in 1920, Hans discovered that stress causes the production of stress hormones, a condition known as General Adaptive Syndrome Stress, once again, causes a variety of bodily and mental indications and symptoms, depending on the environmental circumstances that surround the person (Tan & Yip, 2018). Stress is shown through conscious and unconscious behaviors, as well as psychological reactions oriented towards

a report (Yaribeygi et al., 2017). Individuals are once again subjected to suffering as a result of stress.

There are two types of stress, namely acute and chronic stress. Acute stress is a type of stress that occurs suddenly as a consequence of a specific incident or circumstance that creates novelty, unpredictability, a risk to the ego, and leaves the individual with a sensation of inadequate control. This sort of stress is beneficial to all humans. This is due to the fact that when stress hormones are generated abruptly, they assist the individual's mind and body in dealing with the unexpected occurrence. For example, when someone is about to be involve in an accident or deliver a public speech, the heart begins to beat so quickly that the individual becomes acquainted with the scenario. This demonstrates that the stress hormones are functioning properly. Chronic stress occurs when a person is constantly exposed to stress situations and stress hormones are constantly produced to combat the condition. This type of stress harms and destroys the mind and body of humans. When a person is constantly subjected to stress, it can impair his or her body's functioning, leading to heart disease, high blood pressure, high cholesterol, type 2 diabetes, and depression. The consequences are more severe in those who have a family history of heart disease, diabetes, high blood pressure, or poor lifestyle habits. When our physiological system is activated, it has an impact on the operations of other structures. For example, when our pulse rate, blood pressure, and blood sugar levels rise, our immune system suffers. Finally, when our stress reaction structure is destroyed, the other bodily structures continue to operate. In a word, this sort of stress interferes with how our bodies work.

Malmberg et al, (2007) examined the thyroid stimulating hormone (TSH) levels of anesthetists who worked a night shift with a pediatric surgeon and discovered that their TSH levels were significantly different on different days, with a 26 percent reduction in anesthetists' levels after the night shift and a 48 percent cortisol increase in the morning before the finding might be attributed to the stress hormone's mode of action from the hypothalamus pituitary-adrenal axis (Malmberg et al., 2007). The pituitary gland produces and releases thyroid stimulating hormone into the bloodstream. It regulates the thyroid gland's production of the thyroid hormones thyroxine and triiodothyronine by binding to receptors on thyroid gland cells. Thyroxine and triiodothyronine are necessary for the body's metabolic rate, heart and digestive functions, muscle control, brain development, and bone maintenance. When an individual is under stressed, the stress hormone cortisol is released by the body. Cortisol levels in the body that are too high interfere with thyroid hormone production. As a result, it can stimulate the thyroid to work harder in order to produce more thyroid hormone leading to hyperthyroidism. Furthermore, stress makes one more susceptible to autoimmune thyroid conditions (for example, Hashimoto's thyroiditis).

Again, Yamakage et al., (2007) examined the "salivary amylase concentration on 12 Japanese medical" students undergoing anesthesia in order to find out whether their stress level alter per day and also their reaction to stress also alters according to the surgery they'do, whether it is in the neck, face or in the abdomen. It was realized that their salivary amylase level is different regarding whether they work in the night or day and again become more in the neck and face surgery. The salivary glands produce salivary amylase, a glucose-polymer cleavage enzyme. It accounts for a small portion of the total amylase excreted, the majority of which is produced by the pancreas. Amylases break down starch

into smaller molecules, producing maltose, which is then cleaved into two glucose molecules by maltase. The salivary enzyme alpha-amylase has been linked to stress-related bodily changes. Previous studies revealed that there is a significant increases in salivary alpha-amylase following psychosocial stress, indicating a stress-dependent activation of salivary alpha-amylase. It has been proposed that salivary alpha-amylase reflects catecholaminergic reactivity.

Researchers considered stress on anesthetists as a difficult task because of their work schedules and the area they find themselves. Stress can also be due to an exposure to bad news such as a loss of a dear patient or experiencing a bad working situation. The literature has shown that the factors leading to stress of anesthetists is their job description. By the use of different stress assessment procedures, that is questionnaires and interviews, studies have shown that there is a "correlation and regression analysis" between the stress of anesthetists and their job demands (Yamakage et al., 2007).

The General Adaptive Syndrome has three stages: stage 1, 2 and 3.

- Stage 1: Alarm reaction; this is the first reaction an individual undergoes when exposed to

  a stressor. The individual shows the "fight and flight" reaction. This stage makes an individual susceptible to diseases or illness because it drains them their energy hence lowering their immunity.

- Stage 2: Resistance; in this stage the individual gets used to the stressors that when it happens the individual does not react to the stress any more. This resistance to stress is not good for human health, since the energy is needed at the reaction stage.

- Stage 3: Exhaustion; This is the last stage in which the individual has been exposed to a stressor for a longer period and the stress has made his/ her immune system so low that it cannot fight for infections. At this stage, the body's resistance to stress is lowered, hence nonfunctional.

Tan & Yip (2018) revealed that those who are exposed too much to stress and get to the third stage are usually prone to "heart attacks or severe infections due to their reduced resistance to illness". When a person become conscious of a stress and tries to explain what it is, a biological system is form to react to the stress by producing adrenaline and cortisol. In science, stress reaction occurs in the hypothalamic pituitary-adrenal axis (HPA axis). The hypothalamus is an organ in the brain where stress is perceived and signals are send to the pituitary gland for interpretation. In the pituitary gland, a new signal is again send through the blood to the adrenal gland where stress hormones are usually produced. The adrenal gland sits on top of the kidney and it is located in the lower back of the body. Stress hormone that is produced is attached to its receptors before they carry out its functions. So cortisol is attached to its receptors, and then influences other cells to function, but because the cortisol is found in every part of the body it is needed for almost all biological functions including the brain. For example, in the flight mood, when a person wants to ran away from something, the cortisol produced is attached to the receptors in the leg muscles which enable the person to flee. After the cortisol is done with its work, it then moves back to its original location through the relay message system and the binding effects of its receptor then stops functioning. This mechanism is called the negative feedback. Cortisol is not only needed for fight and flight; it is also needed in the body for

the proper functioning of the body. A normal level of cortisol is needed in the blood for the functioning of the body. Actually, an estimated amount of cortisol is needed for a universal rhythm in all human body. This rhythm is called “circadian rhythm”.

The circadian rhythm of cortisol happens in the body at this rate; early in the morning, the cortisol level increases in the human body reaching its maximum level. It then reduces gradually to its lowest level and peak up at night getting ready for the early morning rise (Do et al., 2011).

2.2 Factors influencing stress

2.2.1 Socio-demography

Age

Aging is mostly a risk factor for stress from some researchers while new researchers also said otherwise. As individuals grow, the more they face challenges and responsibilities to work on, thus they work hard to gain the necessary assets for a good living. Especially when the responsibilities are so high, they work extra miles to get money hence more work. Studies conducted from Europe and USA showed that age 55 years and below is the most stress risk factor. This may be due to the fact that younger workers lack adequate work and thus are unable to deal with occupational stress (Koinis et al., 2015). Working in isolation is found everywhere in human life, either at work or home depending on the age of the individual. Stress will surely catch on the individual, either young or old have to face the challenges of stress at different levels. While young adults struggle with their careers, financial security, and family issues, older adults may be struggling with their health or

dwindling finances. "Successful agers' 'have been found to have some few things in common: connected to friends and family, are active, and usually find ways to reduce and manage the stress in their lives (Scales et al., 2016).

Gender

A study published in Psych neuroendocrinology journal stated that women are the carriers of stress hormone as they grow older. The study again stated that the effects of age on the stress hormone called cortisol is higher in women than in men (Oresta et al., 2021). Interestingly, gender determines measures taken to reduce stress. This is partly hormones and partly societal expectations, gender plays a major role in how stress affects you and how you manage stressful situations. Where stress comes from for both men and women, depends on how they manage it to get the benefits (Gaffey et al., 2016). Women are more exposed to stress due to their work schedules both at home and at work, men find it difficult to address their stress situations. Thus, women undergo much more stress than the men. Men do not go through so much stress as women but when they do, it shows all over them (Gaffey et al., 2016). Female anesthetists and surgeons who have dependents and people who help in caring for these dependents and their house chores have a lower risk of going through stress. Most men consider vulnerability as a sign of weakness, thus they learn to hide their emotions which result in them being ashamed of themselves when they need help (Embriaco et al., 2007). A study conducted by Greer et al (2016) confirmed that the fight and flight response to stress in men is due to lower levels of oxytocin. Thus, men usually try to find an excuse when they get into difficult situations (Greer et al., 2016). Signs and symptoms of stress in men are chest pain, low sex drive, social withdrawal and increased smoking which are psychological and physical symptoms. These signs and

symptoms in men have to be recognized early in men for appropriate solutions. Stress in women experience is closely related to the feeling of all other things first while putting themselves last (Greer et al., 2016). During childhood, girls are taught how to take care of baby dolls while boys play with cars. Generally, women are allowed to voice out their feelings whilst men are not. Thus, it is not difficult for women to voice out their stressed level. Research again confirmed that "tending and befriending" solve stress issues for women. Love hormones also known as oxytocin which is higher in women, help to improve their mood. (Gaffey et al., 2016).

Marital status

Married women and men are not seen to be at a higher risk of getting diseases like cancers, high blood pressure and heart disease (Maas & Appelman, 2010). Some couples encourage each other not to stress themselves out, but rather rest, eat a balanced diet, and take a break from the house by traveling outside their homes. These things are done in homes where both couples care about their partners and the effects of stress are not noticed (Kiecolt-Glaser et al 2017). However, unhappy unions can stress both in body and spirit. However, stress is from workload from home, unhealthy fights with spouses at home. The effects of marital stress are similar in magnitude to more traditional risk factors, such as physical inactivity and smoking. Furthermore, women are at a loss when the marriage is unhealthy. Some studies confirmed that stress from marriage has a greater impact on women's health. Previous studies found that the women in unhappy marriages seemed to fall victim to heart diseases as compared to women in satisfying marriages who had higher blood pressure, higher cholesterol, and higher body mass indexes" (Kiecolt-Glaser & Wilson, 2017). Those women again get depression, anxiety and anger due to marital stress. According to

Maas & Appelman, (2010), there is a high risk of heart disease when marital life brings bad physical and emotional stress (Maas & Appelman, 2010). According to Broder (2011), staying in an unhappy marriage can increase stress and harm one's health and people who have close but negative relationships are more likely to develop heart disease(Broder, 2011).

Department

According to Karasek (1979), he used the studies of exposure of anesthetists to stress as a complete theoretical framework. With this framework, the stress that is due to work has been seen as an inborn or a mental operation when someone complains about their workload being more than their capability (Karasek, 1979). The environment where anesthetists work is also a factor to consider, some of the environment is not friendly, since it involved an enclosed environment with time bomb, excessive tightness with too much work and no time to rest (Lindfors et al., 2009). Health workers in general have been trained to adapt to factors that give them so much tension, but work at both the intensive care unit and the recovery where anesthetists are always working is very stressful as compared to other fields. Even according to Kwiatosz-Muc et al. (2018) anesthetists complain of too much stress at the ICU and the theater since there is too much workload of monitoring patients, cleaning and changing of diapers for unconscious patients. However, other studies in the USA further stated that work related stress has been, since it is so difficult for them to adapt (Kwiatosz-Muc et al., 2018).

2.2.2 Motivational factors

Intrinsic factors/Personality

Burnout and psychological discomfort are exacerbated by personality characteristics that are deemed stable and difficult to alter. People with a specific personality type may prefer high-stress jobs, thus doctors interested in anesthesia may have personality qualities that are well-suited to the specialty's severe demands. Neurotic people are more sensitive to their surroundings, have a propensity to be worried and insecure, and have a strong desire to succeed. Personality assessment might be utilized in the selection of trainees/residents to prevent burnout in future anesthetists, as this predisposes them to develop stress. As a result, tactics are employed. As a result, attempts to treat these issues might be centered on strengthening the individual's coping methods. Personal competence and resilience, as well as professional knowledge and abilities, might be addressed in educational programs (Sousa & Mourão, 2018).

Organizational factors/Extrinsic factors

Work–life imbalance

A balance at work is when an individual sets priority well by setting his or her career and his/her personal life in order to maintain an equilibrium. “Some of the common reasons that lead to a poor work-life balance include: Increased responsibilities at work, working longer hours, Increased responsibilities at home and having children” (Low et al., 2019). “Often, work takes precedence over everything else in our lives. Our desire to succeed professionally can push us to set aside our own well-being. Creating a harmonious worklife balance or work-life integration is critical, though, to improve not only our physical,

emotional and mental well-being, but it's also important for our career" (Low et al., 2019) The more time the individual spends working, the less time the individual will get to socialist or do any meaningful thing about his/her life aside from work. The work life becomes imbalanced when all the individual time is spent at the place of work. When you spend more time at work, you have less time for personal hobbies, family, and recuperation. Spending more time at work means no socialization among friends and no time with family members. Especially those with younger children to cater for. "For both genders, work-life imbalance turned out to be a risk factor affecting mental health. Employees with self-reported work-life conflict (WLC) presented a significantly higher relative risk for poor self-rated health" (Gulavani & Shinde, 2014).

Lack of control

Inability to influence decisions that impact one's employment, such as schedules, assignments, or workload, as well as a lack of resources required to function satisfactorily can all lead to stress. For instance, as an employer, you don't have control over your schedules at work. The time is fixed for every worker to report to work, and their job descriptions are also assigned to them. Research done previously showed that taking much authority over one's work reduces stress. Less work leads to less stress and too much work without resting leads to much stress (Gonzalez-Mulé & Cockburn, 2017). It is good to have much control over one's work, the individual can determine when to go to work or not. Individual workers can decide to work from home due to this pandemic. Technology has also helped a lot. "New research from the Indiana University Kelley School of Business finds that those in high-stress jobs with little control over their workflow die younger or are less healthy than those who have more flexibility and discretion in their jobs and are

able to set their own goals as part of their employment" (Gonzalez-Mulé & Cockburn, 2017).

Workplace/colleagues culture and dysfunction

Working in a company comes with its own side issues. There is some workplace culture that has to be adhered to. Even individual colleagues' interpersonal relationships are nothing to write home about, but it has to be endured in order to work successfully in that organization. Work culture is the umbrella for a work environment where the organization's "mission, value, ethics, vision, expectation and goals of a business is achieved". Thus work culture is how work is done through the motivations and attitudes of colleagues or other staff towards one another in the achievement of that vision. Thus, when the vision is not achieved, it becomes a dysfunctional culture which can bring issues. This causes people to undergo stress (Sousa & Mourão, 2018).

Despite greater awareness and attempts to address bullying in the health care system, it still occurs and constitutes a serious threat to all health care employees' well-being. The way a company handles bad occurrences may add to the stress of those concerned. The relationships between colleagues at work can be frustrating if care is not taken. Some are quarreling with each other and some do not talk to each other (Sousa & Mourão, 2018).

2.3 Symptoms and signs of stress

Stress is difficult to diagnose due to the wide range of physical and psychological symptoms and indications. This problem is exacerbated by a person's dread of the bad connotations connected with stress, which makes them reluctant to seek treatment. Physicians who are stressed may become enraged, irritated, or impatient. Patients may

appear to be treated like objects, or they may appear to be emotionally exhausted. They could be absent a lot or appear unable to leave work. Depression, irritability, sleeplessness, fatigue, and rage are some of the nonspecific clinical symptoms and indications of burnout. The trio of emotional exhaustion is a characteristic of stress. Depersonalization; and a feeling of personal inadequacy. Initially, Maslach and Jackson (1999) saw emotional weariness as a reaction to interpersonal demands, depersonalization as a coping mechanism, and a sense of diminished personal success as a result of non-adaptive coping (Maslach & Jackson, 1981).

Emotional exhaustion

Stress from physical and emotions are caused by high work and/or personal obligations. This kind of stress is due to a sensation of being emotionally overburdened by one's job, which is represented by physical exhaustion as well as a psychological sense of being drained. When someone is emotionally exhausted, it comes with anger, frustration and irritability (Glazer & Liu, 2017). Too much work without rest leads the individual into too much emotional exhaustion. Stress is an inevitable situation where everybody will surely go through it but the more the individual is exposed too much, the more the person becomes unbalanced. This kind of imbalance makes the adrenaline in us release with so much force, which make the hormone serotonin, the natural mood stabilizing hormone.

The side effects of adrenaline such as “a racing heart, sweating, or rapid breathing” are the symptoms usually expressed with the stress effects. “If you're feeling drained and don’t think you can’t bounce back naturally, you may be experiencing emotional exhaustion” (Tijdink et al., 2014).

Depersonalization

This is characterized by "coldness, impersonal attitudes and behaviors toward others", particularly those with whom one interacts often". As a result, this conduct develops a barrier between oneself and people who cause distress. The more an individual is stressed up, the more his/her changes in behavior (Kalmbach et al., 2018). Individuals can tolerate other people when they are in a proper mood. Some feelings come to mind that they are not in themselves or their body is not part of them. Sometimes, they think they are floating in the air or a robot which can be controlled by people since they cannot control their movement and speech. Individuals who go through stress have so many signs and symptoms, some again feel their legs, arms and their body are not part of them, whether it is taken from them or it is shortened or enlarged. Stress makes them think they are not in their senses and the way they respond to things is not emotional. Though it is not their fault, they have to go through counseling to enable them to solve these problems. A feeling that your memories lack emotions and that you cannot have memories is a serious thing which needs urgent help (Kalmbach et al., 2018).

2.4 Effect of stress

Burnout has a detrimental impact on the individual and can lead to worse patient care quality, increased absenteeism expenses, and high staff turnover. The effects of stress can be on the individual, the institution and on the patients. When the staff are stressed up, they transfer the signs and symptoms onto the patients. These patients suffer the consequences, and if care is not taken, the patients will have refused to attend that particular hospital for medical care, hence the institution suffers (Moustaka & Constantinidis, 2010).

2.4.1 Effects on the individual

Stress and mental disease, particularly depression and anxiety disorders, have a lot in common. This has the potential to cause significant psychological and physical illness. According to Kalmoe et al (2019), 400 physicians commit suicide in the United States each year, with stress considered to have a substantial role in a considerable number of these deaths. Depression, absenteeism, drug misuse, and a decrease in working capacity are all predictors (Kalmoe et al., 2019). The signs and symptoms of stress that affect workers are mostly "no-cardiac chest pain, palpitations, and shortness of breath, gastrointestinal trouble, dizziness and headaches". Stress has been linked to high risk of myocardial infarction and coronary heart diseases. Reduced fibrinolytic capability, stress tolerance, and "stimulation of the hypothalamic–pituitary–adrenal (HPA) axis" have also been linked to it (Herman et al., 2016). Stress may make people more prone to uncontrollable eating, increasing their chances of been obese and the health issues that come with it.

Stress among trainees makes them not stay in their professions, but rather move to other areas and it makes it costly to the health-care system. Stress must be acknowledged as the most harmful factor since it produces all of these diseases such as anxiety, frustration, sadness, absenteeism, rage, and other health-related factors (Dhabhar, 2014). These issues are constantly present in anesthetists; it is a daily decision. Stress at work is the leading cause of health problems among anesthetists, including cervical spondylosis, lumbar spondylosis, making errors, contracting nosocomial infections, and neglecting patients (Garousian et al., 2017). Anesthetists are subjected to emotional torment, as well as a never-ending supply of dissatisfaction from their jobs.

2.4.2 Effects on The patient

Stress has been linked to a number of professional implications. This means that as the professionals are stressed up, they transfer the anger and frustration onto the patients which makes the patients not to be satisfied with the professionals' work. The stress professionals can make mistakes in treating the patients leading to lawsuits. Patients treated by stressed physicians are less cooperative, dissatisfied with their treatment, and may even take longer to recover completely (Drummond, 2014).

2.4.3 Effects on the institution

Stress has institutional consequences, such that when stress professionals misbehave towards patients leading to lawsuits, the institutions can be sued to pay a huge sum of money either in court or to the patient. The institution will again lose their customers and their names will be tarnished. Other patients will be careful in attending that particular institution for medical care. Furthermore, less measurable costs emerge when a colleague's death disturbs the work environment. The work community where all physicians and health workers are stressed up, is not a good place to work. This will make the quality of work to be compromised and the number of patients that attend that facility will drastically reduce.

Again, physicians and other health workers will find it difficult to work there hence the facility will be in trouble (View-Kim, 2017).

2.4.4 Effects of work related Stress on Job Performance

According to researchers, there is no difference between direct and indirect impacts of stress. Direct impacts of stress on workers are mostly from the high demand of work which make them have psychological problems and the indirect impacts are the ones that comes from the psychological trauma due to the workload (Koinis et al., 2015)

Direct and indirect stress effects cannot be differentiated sometimes due to the facts surrounding them. The truth of the matter is that it is difficult to identify the differences between them. So many people are confused with it while some are okay with it.

As the definition of stress states that stress is a force that puts pressure on a system, so any demand of work needs a sound mind to work with. Thus, any work which demands a lot of stress will surely put pressure on the body system. "This argument meets the criteria of early stress definitions (stimulus-based approaches); however, it is no longer as accepted demands incur a psychological cost in addition to their direct effects"(Larsson & Fick, 2009). This shows that the high demands on individuals' causes psychological responses like frustration, anxiety and psychological discomfort. However, the response to stress also comes with physical and mental reactions. To apply to the real definition of stress in three dimensions, stress is a demand put on the individual, and is important for the individual to cope with it. For instance, in some situations too much work brings about irritations or frustration which prevent improvement in performance (Garousian et al., 2017).

The job demand brings a lot of stress on the workers which is a direct effect. Some also give an indirect effect, like the time which is not efficient to accomplish a task (Koinis et al., 2015).

2.5 Management strategies

2.5.1 Recognition

In order to recognize the burnout and treat it depends on a biopsychosocial approach. Authors believe that managing stress also does not depend on the person involved. But rather depends on others to counsel and treat the burnout. This makes the "concept of a resistance superhuman doctor" (View-Kim et al, 2017), who can cope with and handle everything on his or her own, has been linked to higher factors of stress and psychological trauma. Individuals undergoing stress with its signs and symptoms should seek early assistance for treatment. Organizations should be able to have facilities with health professionals in case any of their staff show signs of burnout for early treatment. There are ways of recognizing stress. These areas will help cope with serious stress issues, that's when an individual stress level is escalating. As we think about stress being the only external factors, the external factors are not that stressful. Stress is how individuals understand it and interpret it. For instance, when an individual is going to give a public talk, it will look stressful for him/her but for some, it is not stressful. There are four categories where stress can be recognized. These are "thought (cognitive), moods (emotional), behavior (actions) and physical reactions (bodily response). The best thing in stress management is recognition. Departments like occupational health are also a great first point of contact and they address all inquiries discreetly (Drummond, 2014.). A struggling doctor is under no legal duty to notify the Medical Council. It is critical for individuals to test themselves and others they care about for burnout symptoms.

2.5.2 Personal strategies

To check for personal strategies in coping with stress is an easy way. Stress can sometimes add problems upon problems onto individuals' lives if the right strategies are not found. To be anxious means you need to prepare for something important. For example, going to write an exam can make an individual anxious. In order to get the best way of managing stress, it is good to choose the best stress level to manage well. The factors that cause stress could be an environmental factor like "noise, traffic commuting problems, crowded or disorganized situations". Factors relating to education can be deadlines to assignments, end of semester exams or final exams, presentations, small disagreements with the supervisor or the professors. All these factors need recognition before it can be managed (Paolini,

2015). Relying on the health professionals to identify the symptoms of stress, "to seek for assistance and look for strategies to manage their stress effects (Moss et al., 2016).

2.5.3 Environmental strategies

These are multidimensional and focus on the working environment. These interventions, which involve unit leaders, hospital managers and even government authorities should be extended to others. The environmental strategies involved training more personnel to intervene in people who are going through stress, and enabling appropriate relaxation. In order to make the workplace flexible, the authority should add communication and support groups, to changes in training and credentialing, and strengthen laws and regulations (Moss et al., 2016). Some therapies, for example, overlap between personal and environmental, such as cognitive–behavioral therapy, which may be provided in the workplace but needs

individual engagement. The variety of the present evidence base, however, limited the scope of this review. Furthermore, to acknowledge that situations at work are quite different, it is good to inculcate a better way to be accepted by the individual (Wong & Olusanya, 2017).

2.5.4 Resilience

In comparison to research on stress, which was in the past, the knowledge of the opposite, enables elements to keep individuals adequate when they face challenges. Recent study shows that, rather than being a personality characteristic, some abilities might contribute massively to people's resistance. (View-Kim et al, 2017).

- Expressing thanks to others—this produces pleasant feelings, by enabling others to have that friendship which gives a sense of achievement.
- Investing durable time in strengthening the connections with friends.
- Maintaining a good record of accomplishments.
- Taking the appropriate time to establish the individuals, concentrating on what to do to achieve dreams, and counseling, open talks with coworkers, and internet tools may all be used. To make sure individuals' talents and flaws are intact and should not be in a judgmental manner which may enable one to improve.

A recent study examined research on resilience training among doctors and discovered only little advantage (Gander et al., 2016). These techniques are just meant to serve as a guide. There are more alternative techniques that have not been discussed here that individuals may find useful. This must be underlined once more for people with unique

appropriate interactions. A thoughtful, multifaceted way of treating others well-being with their practitioners and groups that support them, such as "friends, families, social and religious groups, coworkers and their employers".

2.6 Conceptual framework of factors associated with stress and its effect

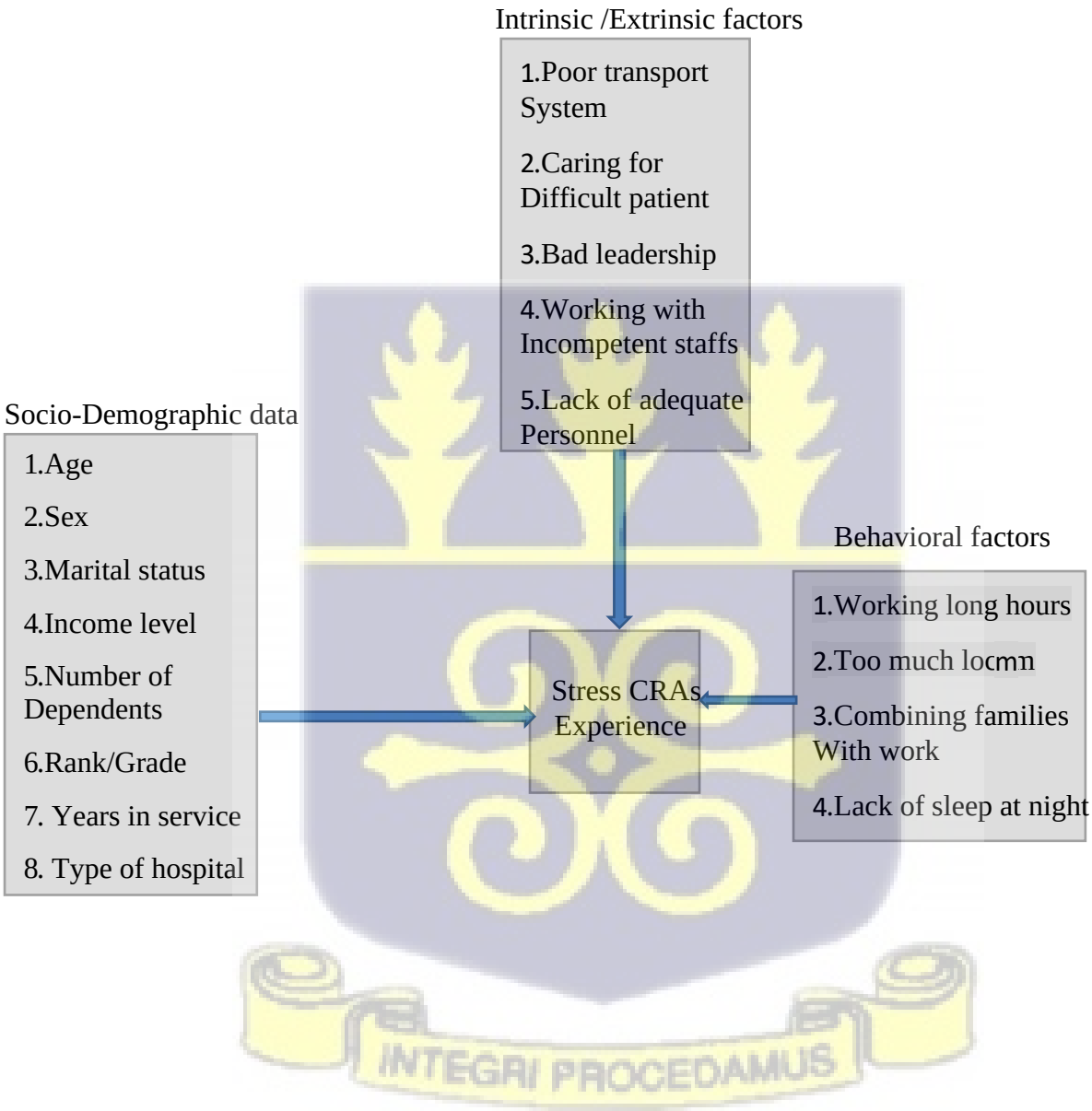

Figure 1: Conceptual framework of factors associated with stress and effects of stress on CRAs in Greater Accra region

2.6.1 Narrative for Conceptual framework

The framework of this study as seen in figure 1 is a conceptual framework designed to present a pictorial view of work-related stress among certified registered anesthetists in the Greater Accra region. This framework consists of socio demographic factors, motivational factors (intrinsic/extrinsic factors) and behavioral factors. The socio demographic factors include the age of the individual, the sex, the income level, marital status, the number of dependents, the rank of the CRAs, the years of experience, the number of part-time jobs or locums, the type of hospital and the number of hours of work. The motivational factors include intrinsic and extrinsic factors which are poor transport system, caring for difficult patients, bad leadership, working with incompetent staffs and lack of adequate personnel, the behavioral factors include working long hours, combining family with work, lack of sleep at night and too much locum.

The socio demographic factors have a high probability of leading the individual into stress, followed by the motivational and the behavioral factors. Aging has its own health problems, the older the individual becomes, the less work the individual has to engage in. Too much work for older individuals can lead to stress hence leading to illnesses. The sex of the individual also determine the level of stress they go through. Females undergo more stress than male. Men were seen as individuals who can endure stress more than females. The marital status of the individual is another factor, many married women and men also go through stress at home before going to work. Income level of the individual also makes them do more work to earn more money for a living, the smaller their income level, the higher they seek for more work hence the stress. The number of dependents also influence the individual to work harder to earn more money for the upkeep of the family. The rank

of the individuals also makes them do more work leading to stress. Junior ranks do more work than the senior ranks. The number of years of experience is another factor that can lead an individual to stress, the smaller the number of years of experience, the more the degree of work individuals have to do in order to gain more experiences. And the greater the number of years of experience, the lesser the work and the less stress. The type of the hospital or institution, the teaching hospitals, demands more work than the district hospitals. The number of hours of work makes an individual work extensively hence the Stress. The behavioral factors like lack of sleep at night, some individuals do not get enough time to sleep at night, some use the time to watch movies throughout the night before reporting to work the following day. Too much locum also makes people not have enough rest after their normal duties. Both anesthetists and physicians are good at running after locum jobs at odd times, instead of having enough rest after work. Most at times, motivational factors also enable the individual to work excessively leading to stress.

2.6.2. Chapter summary

The chapter reviewed literature on work-related stress, factors that could influence stress, the effects of stress on the individuals and institutions, and the work-related stress coping strategies to use. The suggestions gotten from the above literature showed limitations on stress and factors associated with the work-related stress among CRAs in healthcare facilities in the Greater Accra Region of Ghana.

The next chapter talked about the methodology of the study.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The methodology chapter shows the methods of collecting data, the materials involved and the techniques used in gathering the data for analysis to achieve the research objectives. This section describes the study population, the study design, the study area, the study sites, sampling techniques, data sources, data collection instruments, data management and analysis and ethical considerations. The chapter also specifies some ethical issues, which were encountered. The chapter ends with a summary.

3.1 Study design

This study used a quantitative cross-sectional study design in assessing work-related stress among CRAs practicing in the Greater Accra Region licensed by Ghana Medical and Dental Council (GMDC) (Medical and Dental Council, 2021). It was conducted by using the google form questionnaire which was disseminated through certified registered anesthetists WhatsApp platforms. The questionnaire consisted of 35 questions and was administered by the researcher. Convenience sampling technique was adopted to get 140 certified registered anesthetists (CRAs) out of the total number of 198 CRAs in the Greater Accra region. Descriptive statistics were used to analyze the data.

3.2 Study area

Greater Accra, then known as the Accra Capital District, was a geographical and legal part of the Eastern Region in 1960, but it was governed separately by the minister in charge of local administration. Greater Accra was established as a legally independent territory on July 23, 1982, by the Greater Accra Region Law (PNDCL 26), which included the Ada local council area. Greater Accra is now one of the most populous cities in Ghana. It lies in the country's south-central region, bordering the Central Region to the west, the Volta Region to the east, the Eastern Region to the north, and the Gulf of Guinea to the south. It is the smallest of the sixteen regions, with only 3,245 square kilometers (1.4% of the total). (*Ghana Statistical Services.*, 2021.).

Greater Accra features a 225-kilometer shore line that stretches from Kokrobite in the west to Ada in the east. Greater Accra consists of 19 districts with 73 district healthcare facilities. These healthcare facilities include clinics, hospitals, Community Based Health Planning Services (CHPS), polyclinics, maternity homes, private medical centers and the Christian Health Association of Ghana hospitals. Aside from these healthcare facilities, Greater Accra has one regional hospital (1), one teaching hospital (1) and one military hospital (1). Shown in Figures 2 and 3 is the location of the Greater Accra Region.

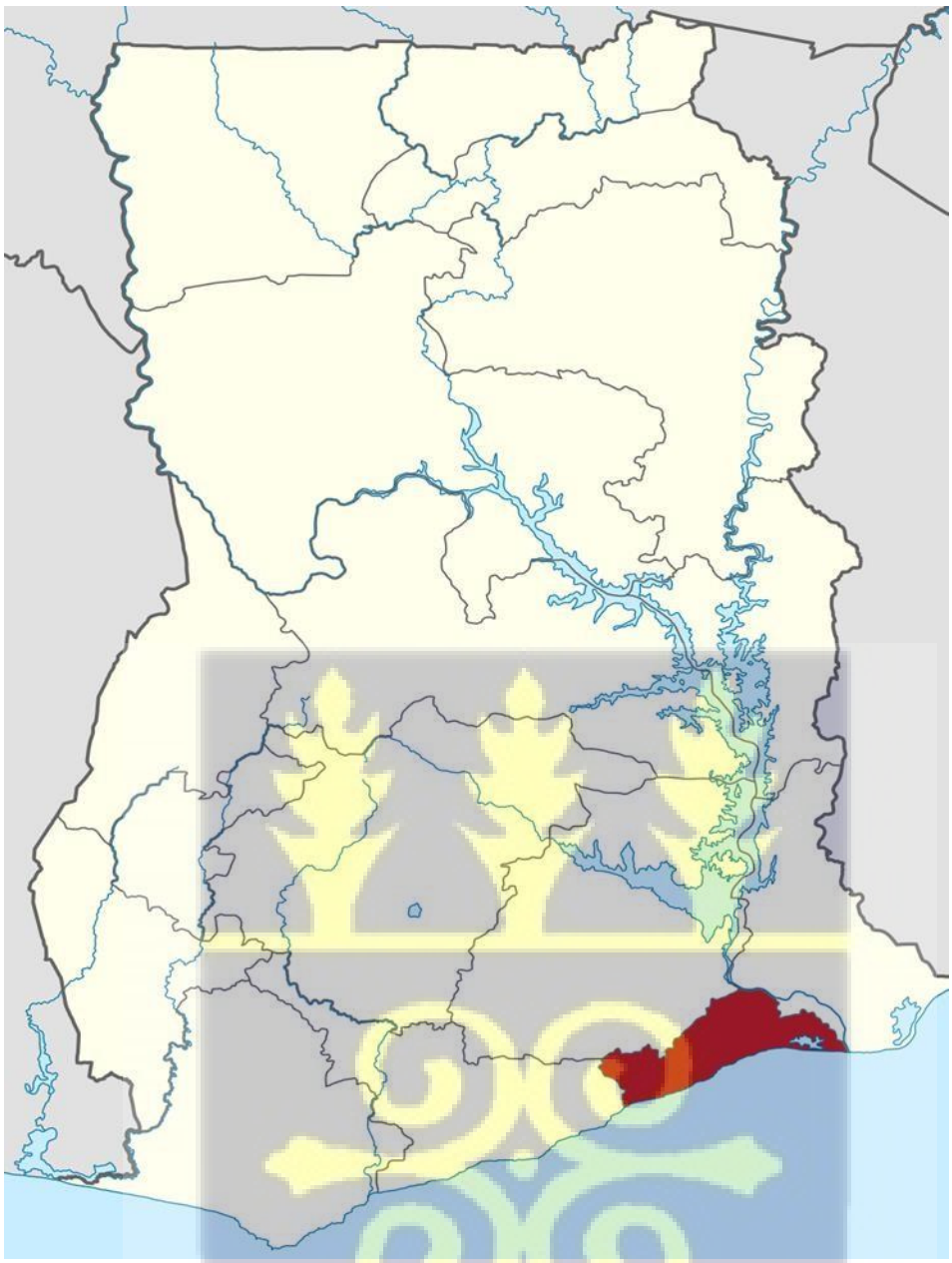

Figure 2: Map of Ghana showing Greater Accra region

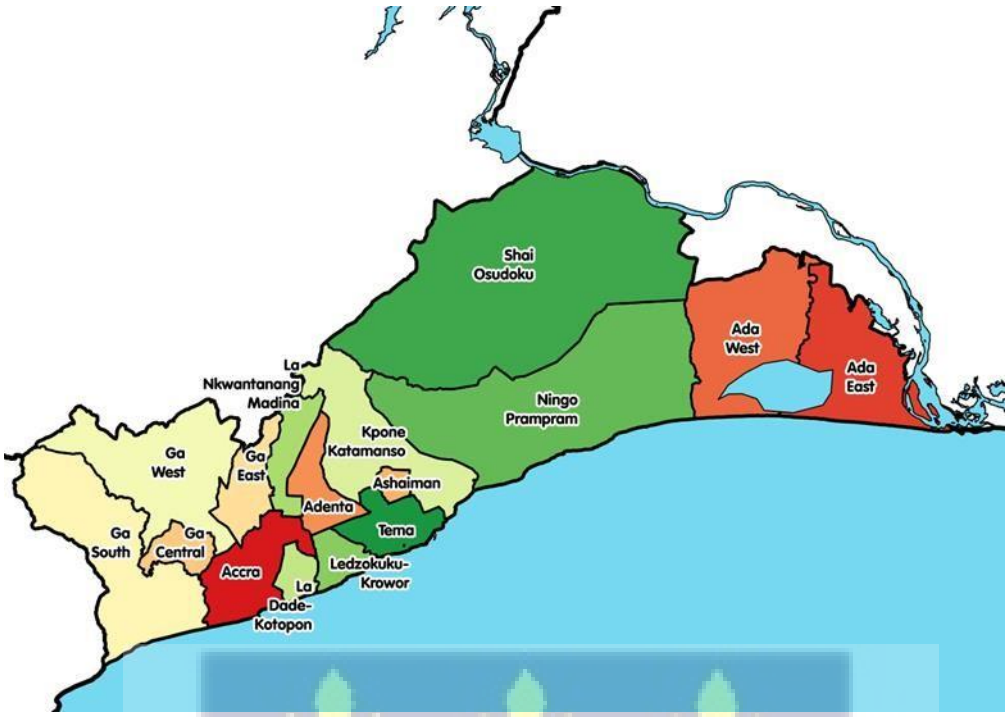

Figure 3: Map of Greater Accra region which is the study area.

Source: https://upload.wikimedia.org/wikipedia/commons/thumb/6/69/Greater Accra in Ghana 2018.svg/1200px-Greater Accra in Ghana.

3.3 Study Participants

The certified registered anesthetists (CRAs) that participated in this study were 140 CRAs out of 198 CRAs in the Greater Accra Region. The participants who answered the questionnaire were from the regional hospital, the teaching hospital, the military hospital, some district hospitals, CHAG hospital, Quasi and private hospitals in the Greater Accra region.

3.4 Study population

The study population was taken from the 2021 gazette of Ghana Medical and Dental

Council (GMDC), where a total of 1244 CRAs were permanently registered in Ghana and 198 CRAs were said to be in Greater Accra Region as at 2021 (Medical and Dental Council, 2021.).

The target population for the study were all CRAs working in the Greater Accra region but only 140 CRAs participated.

3.5 Inclusion criteria

The study included all certified registered anesthetists who were permanently registered with Ghana medical and dental council and working in the Greater Accra region.

3.6 Exclusion criteria

The study excluded CRAs who were not registered with Ghana medical and dental council. Again, student anesthetists and those doing their internship or national service were also excluded.

3.7 Study Variables

3.7.1 Dependent variable

The dependent variable or the primary outcome was the work-related stress certified registered anesthetists (CRAs) experience.

3.7.2 Independent variables

The independent variable consist of socio demography data like age, sex, marital status, income level, number of dependents, the rank, the number of years of experience, the

number of hours of work, the number of part-time jobs, the type of hospital and the factors associated with work-related stress.

Table 1: Operational definition of socio-demographic characteristics

Variable	**Operational definition**	**Scale of measurement**	**Source of data**
Age	Age at last birthday	Continuous 20-30 31-40 >40	Research question
Gender	Being male or female	Binary Male Female	Research question
Marital status	Civil status of respondent in	Nominal Married Single/Cohabiting Divorced/Separated	Research questions
Number of dependence	Number of children	Interval 0-2 3-4	Research question

		>4	
Income level	Monthly paid	Interval 1,500-2,500	Research question
		2,501-3,500 3,501-4,500 >4,501	
Rank	The seniority at work	Ordinal 1.Certified Registered Anesthetist (CRA) 2.Senior Certified Registered Anesthetist (SCRA) 3.Principal Certified Registered Anesthetist (PCRA) 4.Deputy Chief Certified Registered Anesthetist	Research question

		(DCCRA)	
Years of experience	Number of years CRAs work.	Interval 0-3 years 4-7 years 7-10 years >10 years	
Type of the hospital	Where the anesthetists work	Ordinal 1, District hospital 2. Regional hospital 3.Teaching Hospital 4. 37 Military Hospital 5.Quasi/Private/Polyclinic	Research question

Table 2: Operational definition of behavioral factors

Variable	Operational definition	Scale of measurement	Source of data
Lack of sleep	Unable to sleep well in the night due to too much work	Binary Yes No	Research question
Too much locum	Involved in side work after the normal duties	Binary Yes No	Research question

Table 3: Operational definition of motivational factors

Variables	Operational definition	Scale of measurement	Source of data
Intrinsic factors	Personality or individual factors	Nominal	Research question
Extrinsic factors	Environmental factors	Nominal	Research question

3.8 Sample Size Determination

This study is a census and there were 198 certified registered anesthetists as of 2021. Out of the 198 CRAs, 140 CRAs participated in the study. Thus, the total sample size was 140

3.8.1 Sampling

A convenience sampling method was used to solicit data from the CRAs. This is because a google form questionnaire was sent through their WhatsApp pages thus those without WhatsApp or phones were not selected. The CRAs in the Greater Accra region were chosen because they serve a large population and the workload is strenuous and the CRAs are overburdened. This sampling technique was used to sample out a total number of 140 consented respondents' to constitute the study sample size that took part in completing the close-ended questions.

3.8.2 Data collecting instrument

A google form questionnaire was used to collect the data from the 198 anesthetists, which was designed by the researcher based on literature. Studies revealed that the use of google form questionnaires was the cheapest of all the methods used in collecting data (Hanchard et al., 2011). However, questionnaires ushered the researcher into a better area where the participants were able to answer all the questions without any interference. The questionnaires were adopted and modified from those developed by Bakshi et al., (2017). Hassan et al. (2006) Adzakpah (2016) and Frantz & Holmgren (2019). The questionnaire included four sections, namely socio-demographic profile, work-related stress level, factors associated with work-related stress, and the work-related stress coping strategies

on CRAs. Part I which is the socio-demography data included age, sex, marital status, income level, rank, years of experience, number of dependents, number of part-time jobs, number of hours worked per shift and type of health facility. Part II was about the work-related stress level, Part III the factors associated with work-related stress, Part IV was about the work-related stress coping strategies. They were made up of Likert-scale questions that measure the stress of CRAs. The Likert scale was developed "based on the Weiman Occupational Stress Scale" and it was a tool used in checking the level of stress CRAs were going through. The level of work-related stress consisted of nine Likert-scale type questions that measure work-related stress levels among CRAs. Answers to the level of stress had 1-5 points, with 1=never, 2=rarely, 3=occasionally, 4=frequently and 5=always. Participants were again asked to answer the ten questions on factors associated with work-related stress with yes and no answers. And lastly, nine questions were asked on the work-related stress coping strategies with a 1-5 points Likert scale which answered 1-never, 2rarely, 3-sometimes, 4- often and 5–very often.

3.9 Data quality control

For accuracy of data collection for analysis, the instrument used for the collection of data was checked and tested before the research. Data collectors underwent proper training and thorough supervision before they were sent to the field. The chief researcher also took part in the data collection with the field workers and went through the collected questionnaires for cross-examination for any mistakes and omissions.

3.9.1 Data processing and analysis

The data collected were first grouped into categories and then coded with numbers using a Microsoft Excel spreadsheet windows 10. It was then imported into Stata software version 16 for analysis. Descriptive analysis was done and results were then presented in frequencies and percentages. Tables were used to represent the results. A Chi-square test was done to determine the relationship between factors associated with work-related stress and stress level. A p-value < 0.05 was considered statistically significant. The variables that were statistically significant in the Chi-square test were entered into an ordinal logistic regression model with the stress level as the dependent variable and all other variables as the independent variables to determine if they still remain statistically significant. The result was presented with a 95% confidence interval and a reported odd ratio (OR).

3.10 Ethical considerations/approval

3.10.1 Ethical approval

Ethical clearance was sought from the Research Unit of the Ghana Health Service Ethics Committee and from the University of Ghana ethics board.

3.10.2 Study area approval

Permission was sought from the Ghana Association of Certified Registered Anesthetists to provide the gazetted list of CRAs in good standing for the year 2021 and also the management board of all the Ghana Health Service/Ministry of Health(GHS/MOH), Private and Christian Health Association of Ghana (CHAG) facilities in Greater Accra region before the commencement of the study.

3.10.3 Informed consent

It was optional for CRAs who took part in this study and they were obliged to opt-out at any time they desired. The content of the study was explained in detail in plain language for them to understand and they were made to sign a consent by way of seeking their informed consent for the study.

3.10.4 Confidentiality

CRAs were guaranteed that their information would be kept secret and would also be used for the purpose of this study only. And that their names would not be put on the questionnaires for easy identification. Again, their details would not be exposed to anyone or written in the study report.

3.10.5 Risk or benefit/compensation

There was no risk associated with taking part in this study hence no compensation was needed for the participants. Even though there were no benefits the CRAs will enjoy directly from this study, the findings will be useful in determining the factors associated with stress and how they can be reduced.

3.10.6 Data storage and usage

Electronic data files were secured on a computer with a password known by only the researcher. Research assistants access them only when they have been given permission. Data files would be kept for two years after which they would be destroyed.

3.10.7 Conflict of interest

There were no issues of conflict of interest in the conduct of the study.

3.10.8 Funding

The study was fully funded by the researcher with no external support.

3.11 Chapter summary

This chapter described the study methods, it focused on the study design, study population and sampling procedure that helped to collect accurate data for analysis. The next chapter presents the results of the study.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the results on work-related stress among the certified registered anesthetists (CRAs) practicing in the Greater Accra Region and were gazette by the Ghana Medical and Dental Council in the year 2021.

4.1 Socio-demographic characteristics of respondents

This section presents the results relating to the socio-demographic characteristics of the CRAs. Out of the 140 respondents, 76(54.3%) were female and 64 (45.7%) were male. Most of the respondents, 76(54.3%) were in the age group between 31-40 years followed by those more than 40 years consisting of 37 (26.4%), then 27 (19.3%) representing 20-30 years. 27 (19.3%) of the CRAs were married, followed by 32 (22.9%) who were divorced/separated and 81(57.9%) were single/cohabiting. Regarding rank, 71 (50.7%) were principal certified registered anesthetists, 36 (25.7%) were senior certified anesthetists, 20 (14.3%) were certified registered anesthetists and only 13 (9.3%) were deputy chief certified registered anesthetists. A total of 51 (36.4%) had 0-3 years of work experience, while 47 (33.6%) had 4-7 years of experience, 23 (16.4%) had more than 10 years of work experience and only 19 (13.6%) had 7-10 years of work experience. The certified registered anesthetists earn income according to their rank. Thus, 66 (47.1%) who were senior CRAs earned between 2,501-3,500 GHC, 35 (25%) who were Principal CRAs earned between 3,501- 4,500 GHC whiles 23 (16.4%) were certified registered anesthetists

who earned between 1,500-2,500 GHC and 16 (11.4%) were deputy chiefs CRAs who earned more than 4,501. The majority of the participants 49 (35%) were from district hospitals in the Greater Accra region, 25 (17.9%) from the teaching hospital, 24 (17.1%) from 37 Military hospital, 32 (22.9%) were from Greater Accra Regional hospital and only 10 (7.1%) participants came from quasi/private/polyclinics. In terms of the number of hours the CRAs worked, the majority of 88 (62.9%) work between 41-50 hours, 33 (23.6%) work between 51-60 hours, 11 (7.9%) work more than 61 hours and only 8 (5.7%) work less than 40 hours per week. The number of part-time jobs or locums CRAs engage in also contribute to their stress level. Hence, 67 (47.9%) had 0-1 locums, 59 (42.1%) had 2-3 locums and 14 (10%) had more than 4 locums aside from their original job. Finally, the number of dependencies make CRAs do more locums in order to earn more income hence the stress. The majority 78 (55.7%) had 3-4 dependents, 48 (34.3%) had 0-2 dependents and 14 (10%) had more than 4 dependents (Table 4).

Table 4. Socio-demographic characteristics of CRAs

Characteristics	Frequency (N=140)	Percentage (%)
Gender		
Female	76	54.3
Male	64	45.7

Age		
20-30	27	19.3
31-40	76	54.3
>41	37	26.4
Marital status		
Single/Cohabiting	81	57.9
Married	27	19.3
Divorced/Separated	32	22.9
Number of dependents		
0-2	48	34.3
3-4	78	55.7
>4	14	10.0
Income level (GHC)		
1,500-2,500	23	16.4
2,501-3,500	66	47.1
3,501-4,500	35	25.0
>4,500	16	11.4

Rank/Grade		
CRAs	20	14.3
SCRAs	36	25.7
PCRAs	71	50.7
DCCRAs	13	9.3
Type of health facility		
District hospital	49	35.0
37 military hospital	24	17.1
Regional hospital	32	22.9
Teaching hospital	25	17.9
Quasi/Private/Polyclinic	10	7.1
Years of experience(Years)		
0-3	51	36.4
4-7	47	33.6
7 -10	19	13.6
>10	23	16.4
Average number of hours spend at work(Hours)		

<40	8	5.7
41-50	88	62.9
51-60	33	23.6
> 61	11	7.9
Number of part time jobs		
0-1	67	47.9
2-3	59	42.1
>4	14	10.0

4.2: Work-related stress levels

Out of the 140 CRAs, 20(14.3%) had mild stress level, 103(73.6%) had moderate stress level and 17(12.1%) had severe stress level, based on the Weiman Occupational Stress Scale. With this data it means the majority of the CRAs had moderate stress levels.

Out of the 76 females, 13(17.1%) had mild stress, 54(71.1%) had moderate stress and 9(11.8%) had severe stress. This shows that the majority of female CRAs had moderate stress levels.

Then out of the 64 males, 7(10.9%) had mild stress level, 49(76.6%) had moderate stress level and 8(12.5%) had severe stress level. This again shows that the majority of male CRAs had moderate stress levels as well (Table 5a).

Table 5a Work-related stress level among CRAs

	Total	Mild	Moderate	Severe
	140	20(14.3%)	103(73.6%)	17(12.1%)
Female	76	13(17.1%)	54(71.1%)	9(11.8%)
Male	64	7(10.9%)	49(76.6%)	8(12.5%)

4.2.1 Stress level elements

According to the results obtained from the work-related stress level, the following indicators were discovered; 54 (38.6%) of the CRAs had never felt incapacitated or overwhelmed by work-related stress, 59 (42.1%) of CRAs had rarely felt that way and 27(19.3%) occasionally felt incapacitated and overwhelmed. 37(26.4%) never felt tired and fatigued in the morning, 49(35.0%) rarely felt tired and fatigued, 35(25.0%) occasionally felt tired and fatigued in the morning, whiles 19(13.6%) frequently felt tired and fatigued in the morning. However, 25(17.9%) of CRAs never felt used up or drained from work, 61(43.6%) rarely felt used up or drained from work, 30(21.4%) occasionally felt used up or drained from work and 24(17.1%) frequently felt used up or drained from work. 35(25.0%) of CRAs never felt positive or energetic and in control of

their surroundings, 46(32.9%) of CRAs rarely felt positive or energetic, 34(24.3%) occasionally felt positive or energetic whiles 25(17.9%) frequently felt positive or energetic and in control of their surroundings. 44(31.4%) never found it difficult to tolerate interruptions while working, 46(32.9%%) rarely find it difficult to tolerate interruptions, 33(23.6%) occasionally find it difficult to tolerate interruptions while 17(12.1%) frequently find it difficult to tolerate interruptions while working. 32(22.9%) of CRAs were never intolerant to any hindrances to things they want to do, 57(40.7%) of CRAs were rarely intolerant to any hindrances, 25(17.9%) of CRAs were occasionally intolerant to any hindrances and 26(18.6%) of CRAs were frequently intolerant to hindrances to things they want to do. 33(23.6%) of CRAs never felt that they had started caring less or become indifferent or even callous towards their patients, 52(37.1%) of CRAs rarely felt that 31(22.1%) of CRAs occasionally felt like that whiles 24(17.1%) frequently felt that they had started caring less or become indifferent or even callous towards their patients. Furthermore, 24(17.1%) of CRAs never thought there was a high level of stress among them in the Greater Accra region, 47(33.6%) of CRAs rarely thought about that, 51(36.4%) occasionally thought about it and 18(12.9%) frequently thought that there was a high level of stress among them in the Greater Accra region. Finally, 35(25.0%) of CRAs never worried that they might find themselves in situations in which they might panic or make a mistake at work, 56(40.0%) of CRAs rarely worried like that, 28(20.0%) of CRAs occasionally worry about it and 21(15.0%) frequently worry that they might find themselves in situations in which they might panic and make a mistake at work (Table 5b).

Table 5b: Stress level elements

Occasio				Freque	Always	
Never	Rarely	nally	ntly	n (%)	n (%)	n (%)	n (%)	n(%)
Felt incapacitated or overwhelmed by work related stress?			54 (38.6)	59 (42.1)	27 (19.3)	0(0)	0(0)
Feeling tired and fatigued			37 (26.4)	49 (35.0)	35 (25.0)	19 (13.6)	0(0)
Feel used up/drained from work?			25 (17.9)	61 (43.6)	30 (21.4)	24 (17.1)	0(0)
Feel positive/energetic.			35 (25.0)	46 (32.9)	34 (24.3)	25 (17.9)	0(0)

Find it difficult to tolerate interruptions.	44 (31.4)	46 (32.9)	33 (23.6)	17 (12.1)	0(0)
Intolerant to any hindrances.	32 (22.9)	57 (40.7)	25 (17.9)	26 (18.6)	0(0)
Feeling of caring less, or becoming indifferent.	33 (23.6)	52 (37.1)	31 (22.1)	24 (17.1)	0(0)
Panic and making mistakes.	35 (25.0)	56 (40.0)	28 (20.0)	21 (15.0)	0(0)

4.3 Work-related factors that may affect stress

Table 6, indicated that 50% of the CRAs did encounter negative patient outcomes at work while 50% did not encounter negative patient outcomes e.g., death or permanent disability. 58.6% had to work with inadequate or sub-standard resources while 41.4% did not work

with inadequate or sub-standard resources. 58.6% of CRAs had appropriate and qualified theater staff available to work with while 41.4% did not have the appropriate and qualified theater staff available to work with. Again 60% of CRAs work alone on difficult cases while 40% did not work alone on difficult cases. 64.3% of CRAs were given the chance to choose their own methods and techniques to work with while 35.7% were not given the freedom to choose their own methods and techniques to work with. Finally, 59.3% had a heavy workload per shift while 40.7% did not have a heavy workload per shift (Table 6)

Table 6: Work-related factors that may affect stress

Variables & Categories	**Yes n (%)**	**No n (%)**
Negative patient outcomes at work.	70 (50.0)	70 (50.0)
Inadequate or sub-standard resources, equipment and supplies?	82 (58.6)	58 (41.4)
Appropriate and qualified theater staff.	82 (58.6)	58 (41.4)
Supervision by a senior colleague at work.	48 (34.3)	92 (65.7)

Working alone on difficult cases.	84 (60.0)	56 (40.0)
Freedom of choosing your own methods and techniques.	90 (64.3)	50 (35.7)
Heavy workload per shift.	83 (59.3)	57 (40.7)
Recognizing for doing a good job.	63 (45.0)	77 (55.0)
Payment of overtime allowance.	40 (28.6)	100 (71.4)
Dissatisfaction with other theater staff.	64 (45.7)	76 (54.3)

4.4 Factors associated with stress-bivariate analysis

4.4.1 Association between socio-demographic characteristics and levels of stress.

Among the female CRAs who participated in this study, 17.1% were classified to have mild stress level, 71.1% had moderate stress level and (11.8%) had severe stress level

(Table 7). Among the males, the majority (76.6%) had moderate stress levels and (12.5%) had severe stress levels. However, the association between gender and stress level was not significant (p=0.490). The majority between the age group of 20-30 years (77.8%) had moderate stress level, the age group between 31-40, (15.8%) had mild stress level, 73.7% had moderate stress level and (10.5%) had severe stress level. Among age groups of more than 41years, 16.2% had mild stress level, 70.3% had moderate stress level and (13.5%) had severe stress level. The association between age group and stress level was insignificant (p= 0.810).

Regarding marital status of the CRAs, single/cohabiting CRAs (13.6%) had mild stress level, 71.6% had moderate stress level, 14.8% had severe stress level. Among the married CRAs, 7.4% had mild stress level, 77.8% had moderate stress level and (14.8%) had severe stress level. Among the divorced/separated CRAs, 21.9% had mild stress level, 75.0% had moderate stress level and (3.1%) had severe stress level. The association between marital status and stress level was insignificant (p=0.280).

CRAs who had dependents between 0-2, (6.3%) had mild stress level, 81.3% had moderate stress level, 12.5% had severe stress level. For those with dependents between 3-4, 17.9% had mild stress level, 71.8% had moderate stress level and (10.3%) had severe stress level. In the case of those with more than 4 dependents, 21.4% had mild stress level, 57.1% had moderate stress level and (21.4%) had severe stress level. The association between the number of dependents and the stress level was not significant (p=0.230).

For CRAs with an income level between 1,500-2,500 GHC, 8.7% had mild stress level, 69.6% had moderate stress level and (21.7%) had severe stress level. For those with an income level between 2,501-3,500 GHC, 19.7% had mild stress level, 72.7% had moderate

stress level, and 7.6% had severe stress level. For CRAs who earned between 3,501-4,500 GHC, 11.4% had mild stress level, 71.4% had moderate stress level and (17.1%) had severe stress level. In the case of those that had income level more than 4,501 GHC, 6.3% had mild stress level, 87.5% had moderate stress level and 6.3% had severe stress level. But the association between stress level and the income level was insignificant (p=0.290).

For participants ranked as CRAs, 10.0% of had mild stress level, 65.0% had moderate stress level, and 25.0% had severe stress level. 25.0% of those ranked as SCRAs had mild stress level, 66.7% had moderate stress level and 8.3% had severe stress level. 11.3% of those ranked as PCRAs had mild stress level, 77.5% had moderate stress level and 11.3% had severe stress level. For those with the rank of DCCRAs, 7.7% had mild stress level, 84.6% had moderate stress level and 7.7% had severe stress level. There was no significant association between the stress level and the rank of the CRAs (p=0.220).

Based on the type of health facilities the CRAs worked, 14.3% of CRAs in the district level facilities had mild stress level, 61.2% had moderate stress level and 24.5% had severe stress level. For those at 37 military hospitals, 20.8% had mild stress level, 62.5% had moderate stress level and 16.7% had severe stress level. Regarding those at the regional hospitals, 6.3% had mild stress level, 93.8% had moderate stress level and 0.0% had severe stress level. For those working at the teaching hospital, 24.0% had mild stress level, 76.0% had moderate stress level and 0.0% had severe stress level. In respect of those at quasi/private/polyclinics, 0.0% had mild stress level, 90.0% had moderate stress level and 10.0% had severe stress level. There was a significant association (p=0.004) between the stress level and the type of health facilities CRAs work.

Table 7: Association between socio-demographic characteristics and levels of stress

Variables & categories	Total	P-value	Levels of stress		
			Mild	Moderate	Severe
N	140		20	103	17
Gender		0.490			
Female	76		13 (17.1)	54 (71.1)	9 (11.8)
Male	64		7 (10.9)	49 (76.6)	8 (12.5)
Age		0.810			
20-30years	27		2 (7.4)	21 (77.8)	4 (14.8)
31-40	76		12 (15.8)	56 (73.7)	8 (10.5)
>41	37		6 (16.2)	26 (70.3)	5 (13.5)
Marital status		0.280			
Single/Cohabiting	81		11 (13.6)	58 (71.6)	12 (14.8)
Married	27		2 (7.4)	21 (77.8)	4 (14.8)

Divorced/Separated	32	7 (21.9)	24 (75.0)	1 (3.1)	
Number of dependents					0.230
0-2	48	3 (6.3)	39 (81.3)	6 (12.5)	
3-4	78	14 (17.9)	56 (71.8)	8 (10.3)	
>4	14	3 (21.4)	8 (57.1)	3 (21.4)	
Income level (GHC)					0.290
1,500-2,500	23	2 (8.7)	16 (69.6)	5 (21.7)	
2,501-3,500	66	13 (19.7)	48 (72.7)	5 (7.6)	
3,501-4,500	35	4 (11.4)	25 (71.4)	6 (17.1)	
>4,501	16	1 (6.3)	14 (87.5)	1 (6.3)	
Rank/Grade					0.220
CRAs	20	2 (10.0)	13 (65.0)	5 (25.0)	
SCRAs	36	9 (25.0)	24 (66.7)	3 (8.3)	
PCRAs	71	8 (11.3)	55 (77.5)	8 (11.3)	
DCCRAs	13	1 (7.7)	11 (84.6)	1 (7.7)	
Type of health facility					**0.004**

District hospital	49	7 (14.3)	30 (61.2)	12 (24.5)
37 military hospital	24	5 (20.8)	15 (62.5)	4 (16.7)
Regional hospital	32	2 (6.3)	30 (93.8)	0 (0.0)
Teaching hospital	25	6 (24.0)	19 (76.0)	0 (0.0)
Quasi/Private/Polyclinic	10	0 (0.0)	9 (90.0)	1 (10.0)
Years of experience(Years)				0.360
0-3	51	10 (19.6)	34 (66.7)	7 (13.7)
4-7	47	7 (14.9)	37 (78.7)	3 (6.4)
7-10	19	2 (10.5)	15 (78.9)	2 (10.5)
>10	23	1 (4.3)	17 (73.9)	5 (21.7)
Average number of hours spend at work				0.560
<40hours	8	1 (12.5)	5 (62.5)	2 (25.0)
41-50hours	88	16 (18.2)	63 (71.6)	9 (10.2)
51-60hours	33	2 (6.1)	27 (81.8)	4 (12.1)
>61	11	1 (9.1)	8 (72.7)	2 (18.2)
Number of part time jobs				0.088
				10

0-1	67	8 (11.9)	49 (73.1)	(14.9)
2-3	59	9 (15.3)	47 (79.7)	3 (5.1)
>4	14	3 (21.4)	7 (50.0)	4 (28.6)

4.4.2 Association between work-related factors and levels of stress

Stress levels were significantly associated with inadequate or substandard equipment with a p-value of 0.014 (Table 8). The table shows that among CRAs working with inadequate or substandard equipment, 8.5% had mild stress levels, 74.4% had moderate stress level and (17.1%) had severe stress level.

It was found that (14.3%) of CRAs who encountered negative events were under mild stress level, 72.3% were under moderate stress level and 12.9% were under severe stress. However, this association was not statistically significant (p=0.900). Majority of CRAs who reported working with qualified theater staff were moderately stressed with 74.4% and those who didn't report for qualified theater staff also had 72.4% moderate stress. But working with qualified theater staff was not significantly associated with stress level (p=0.645).

About 72.9% of participants, who were under the supervision of a senior colleague were moderately stressed, while among those who were not under supervision, 73.9% were also

moderately stressed. There was no significant association between stress level and supervision by a senior (p=0.790).

Among CRAs working on a difficult case alone, 67.9% were moderately stressed, and 82.1% of those who were not working on difficult cases were also under moderate stress. This association was found to be statistically significant (p=0.040).

Majority of those who had freedom to choose their own methods and techniques, had a moderate stress level of 72.2% and those who were not given the freedom to choose their own methods and techniques also had moderate stress of 76.0%. But no significant association was found between stress level and having freedom to choose their own methods and techniques.

Among participants with a heavy workload, 73.5% were moderately stressed, while 73.7% who were without a heavy workload had moderate stress but this association was not statistically significant (p=1.000).

70.3% of CRAs who were dissatisfied with other theater staffs' attitudes were moderately stressed. 76.3% were not dissatisfied with other theater staffs' attitudes but were also moderately stressed. But these associations were not statistically significant (p=0.640) (Table 8).

Table 8: Association between work-related factors and levels of stress

Variables & categories	Total	Levels of stress: Mild	Moderate	High	P-value
N	140	20(14.2	103 (73.6)	17 (12.1)	
Negative patient outcomes.					0.970
Yes	10	70 (14.3)	51 (72.9)	9 (12.9)	
No	10	70 (14.3)	52 (74.3)	8 (11.4)	
Inadequate or sub-standard resources, equipment and supplies.					**0.014**
Yes	82	7 (8.5)	61 (74.4)	14 (17.1)	
No	13	58 (22.4)	42 (72.4)	3 (5.2)	
Appropriate and qualified theater staff.					0.645

Yes	10 82 (12.2)	61 (74.4)	11 (13.4)	
No	10 58 (17.2)	42 (72.4)	6 (10.3)	
Supervision by a senior colleague at work.				0.790
Yes	48 8 (16.7)	35 (72.9)	5 (10.4)	
No	12 92 (13.0)	68 (73.9)	12 (13.0)	
working alone on difficult cases.				**0.040**
Yes	12 84 (14.3)	57 (67.9)	15 (17.9)	
No	56 8 (14.3)	46 (82.1)	2 (3.6)	
Freedom to choose your own methods and techniques.				0.525
Yes	90 12 (13.3)	65 (72.2)	13 (14.4)	
No	50	38 (76.0)	4 (8.0)	

		8 (16.0)			
Heavy workload per shift.					1.000
Yes	83	12 (14.5)	61 (73.5)	10 (12.0)	
No	57	8 (14.0)	42 (73.7)	7 (12.3)	
Recognized for doing a good job.					0.530
Yes	63	7 (11.1)	47 (74.6)	9 (14.3)	
No	77	13 (16.9)	56 (72.7)	8 (10.4)	
Payment of overtime allowance.					0.320
Yes	40	3 (7.5)	31 (77.5)	6 (15.0)	
No	100	17 (17.0)	72 (72.0)	11 (11.0)	
Dissatisfaction with other theater staff.					0.640
Yes	64	11 (17.2)	45 (70.3)	8 (12.5)	
No	76	9 (11.8)	58 (76.3)	9 (11.8)	

4.4.3 Factors associated with stress - ordinal logistic regression

This section shows the result from the ordinal logistic regression between work-related stress and its associated factors are presented in Table 9. The results showed that only type of health facility and substandard equipment remained significantly associated with stress in both the unadjusted and the adjusted proportional odds ordinal logistic regression models. Working at a teaching hospital compared to district hospital reduced the odds [(COR = 0.21; 95% CI = 0.07, 0.65), (AOR=0.23; 95% CI = 0.07, 0.76)] of moving from the mild stress category to the moderate/severe stress category. Similarly, those who reported that they were not working with substandard equipment (compared to those using substandard equipment) had lower odds [(COR = 0.30; 95% CI = 0.13, 0.69), (AOR=0.28; 95% CI = 0.11, 0.68)] of moving from the mild category to moderate/severe category of stress. The explanatory variables such as age, number of hours spend, working on difficult case, and heavy workload were not statistically significant (i.e., p-value >0.05) in both the unadjusted and adjusted proportional odds ordinal logistic regression models (Table 9).

Table 9: Factors associated with Stress-Ordinal logistic regression

Effect	Unadjusted model		Adjusted model	
		P-		P-

	COR [95% CI]	value	AOR [95% CI]	value
Age				
20-30 years	1.00 [reference]		1.00 [reference]	
31-40 years	0.58 [0.21, 1.54]	0.274	0.55 [0.19, 1.57]	0.264
>41 years	0.64 [0.21, 1.96]	0.440	0.45 [0.13, 1.57]	0.211
Type of health facility				
District hospital	1.00 [reference]		1.00 [reference]	
37 military hospital	0.48 [0.15, 1.58]	0.228	0.49 [0.14, 1.67]	0.255
Regional hospital	0.46 [0.16, 1.28]	0.137	0.46 [0.15, 1.37]	0.164
Teaching hospital	0.21 [0.07, 0.65]	**0.007**	0.23 [0.07, 0.76]	**0.015**
Quasi/Private/Polyclinic	0.92 [0.20, 4.14]	0.914	1.23 [0.24, 6.34]	0.803
Number of hours spend				
<40	1.00 [reference]		1.00 [reference]	

41-50	0.39 [0.07, 2.03]	0.263	0.75 [0.11, 4.78]	0.763
51-60	0.72 [0.13, 4.12]	0.714	1.63 [0.23, 11.78]	0.627
>61-70	0.84 [0.11, 6.51]	0.865	1.06 [0.12, 9.31]	0.959
Substandard equipment				
Yes	1.00 [reference]		1.00 [reference]	
No	0.30 [0.13, 0.69]	**0.004**	0.28 [0.11, 0.68]	**0.005**
Working alone on difficult cases				
Yes	1.00 [reference]		1.00 [reference]	
No	0.54 [0.25, 1.17]	0.117	0.71 [0.30, 1.70]	0.439
Heavy workload				
Yes	1.00 [reference]		1.00 [reference]	
No	1.02 [0.48, 2.19]	0.941	1.44 [0.60, 3.49]	0.414

4.5 Work-related stress coping strategies among the CRAs

In order to find out the most coping strategies used by the CRAs in managing work-related stress, a stress management survey instrument was used. The CRAs were requested to rank in an order of 1-3 for never, rarely/sometimes and very often. It was identified that (20%) of CRAs never denied that they were not responsible for the situation, 52.1% rarely or sometimes denied that they were not responsible for the situation, and (27.9%) very often denied that they were not responsible for the situation. Again, 17.9% of CRAs never substituted their gratification, 67.9% rarely or sometimes substituted their gratification and (14.3%) very often substituted their gratification. 47.9% of CRAs rarely or sometimes planned how to solve the difficulties involved whiles 52.1% of CRAs very often planned to solve difficulties involved. 55.7% of CRAs rarely or sometimes told themselves that they must not lose their temper while (44.3%) very often told themselves that they must not lose their temper. However, 53.6% rarely or sometimes told themselves that they can cope with the situation while (46.4%) very often told themselves that they can cope with the situation. Moreover, 28.6% never tried to escape from the situation, whiles 52.9% rarely or sometimes tend to escape from the situation and (18.6%) very often tend to run away from the situation. 60.0% of CRAs rarely or sometimes tried to talk to somebody about their problem whiles (40.0%) very often talked to someone about their problem. Finally, 22.1% of CRAs never tend to give up, whiles 54.3% rarely or sometimes tend to give, and (23.6%) very often tend to give up (Table 10).

Table 10: Work-related stress coping strategies among CRAs

Coping strategies	Never n (%)	Rarely/Sometimes n (%)	Very often n (%)
Denial of guilt. (eg. I think that I am not responsible for the situation)	28 (20.0)	73 (52.1)	39 (27.9)
Substitute gratification (eg. l give myself something that l desired for a long time)	25 (17.9)	95 (67.9)	20 (14.3)
Situation control. (e.g. I plan how to solve the difficulties involved)	0(0)	67 (47.9)	73 (52.1)
Reaction control (e.g. I tell myself that I must not lose my temper)	0(0)	78 (55.7)	62 (44.3)
Positive self-instructions (e.g. I tell myself that I can cope with this)	0(0)	75 (53.6)	65 (46.4)

Escape (e.g. tend to run away from the situation)	40 (28.6)	74 (52.9)	26 (18.6)
Peer support/ Spending time with family and friends (e.g. (I try to talk to somebody about the problem)	0(0)	84 (60.0)	56 (40.0)
Resignation: Give up with feelings of helplessness or hopelessness (e.g. tend to give up)	31 (22.1)	76 (54.3)	33 (23.6)

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter discusses the key findings of the study. The general objectives of the study were to assess work-related stress among certified registered anesthetists in the Greater Accra Region. The specific objectives were to determine the levels of stress certified registered anesthetists experience, to identify the factors associated with work-related stress and the work-related stress coping strategies adopted by the certified registered anesthetists.

5.1 Socio-demographic characteristics of the CRAs

In this studies, majority of the CRAs experienced moderate stress as this is in line with Bakshi et al (2017) which stated in the Indian journal of anesthesiologist that 99% of anesthesiologist experienced moderate stress (Bakshi et al., 2017). Stress is an important aspect of human life, and is necessary for the individual to experience stress and be able to adjust and adapt to its challenges. Moderate stress which is not appropriately corrected by the organization can result to illness, absenteeism, high turnover, poor performance, employee dissatisfaction, low productivity leading to poor service to client.

Again, majority of the CRAs were female, most were between the ages of 31-40 years and were single. According to Mahdia et al (2010), in the study where they assessed work-related stressors among critical care nurses indicated that majority were female, and were between the ages of 25 to 30 years but majority were married (Mahdia et al., 2020).

However, only the type of health facility was found to be significantly associated with work-related stress level among the socio-demographic factors studied. The other socio-demographic factors were not significantly related to CRA stress levels. This means that, with the exception of the significant correlation between the type of health facility and the level of work-related stress, none of the factors evaluated have a significant relationship with work-related stress among CRAs.

According to Gravenstein (1990), Anesthesiologists had overworked themselves on at least one occasion, and they had made mistakes in anesthesia administration due to fatigue (Gravenstein, 1990). In a previous study, anesthesiologists reported stress due to innately difficult job situations (e.g. difficult intubation or recovery), interpersonal conflicts (e.g. lack of communication within the team, with the surgeon), and life career concerns (Nyssen et al., 2003).

Koshy et al (2011) stated that because of the long hours spent standing and the fact that anesthetists work in a variety of areas such as intensive care, cardiac arrest teams, pain management, labor analgesia, remote anesthesia for radiotherapy, computed tomography (CT), magnetic resonance imaging (MRI), and so on. Many of them travel long distances in private vehicles. Working in shifts may contribute to the high incidence of acid peptic disease(Koshy et al., 2011).

Adzakpah (2016), stated that nurses throughout the world undergo stress since they are always in contact with their patients as their work demands. He again identified that what makes nurses go through stress were the functions of the type of hospitals they work and their socio-demographic feature (Adzakpah, 2016). Again, work-related stress has become a big problem and it has a burden on the individual's health and wellbeing. Stress has also

caused problems to the institutions in terms of the turnovers and absenteeism from their workers which is affecting the quality of care being given to the patient (Gulavani et al, 2014).

5.2 Work-related stress levels among CRAs

According to the findings, the majority of CRAs experience moderate stress levels. The following were the work-related stress level elements reported by the CRAs; felt incapacited or overwhelmed with work-related stress, felt tired and fatigued, felt used up or drained up, felt positive or energetic, found it difficult to tolerate interruption, felt caring less or became indifferent and panicked about making mistakes. Feeling these ways can be expected because, sometimes stress can let the individual behave abnormally due to the release of cortisol from the brain.

Similar to the findings in this study, Bakshi et al (2017) reported that 69% of anesthesiologists rated their stress level in professional life as moderate while 22% rated it as extreme and 9% had a minimum amount of stress. It was again revealed that the following signs and symptoms were identified in the respondents in that study- feeling of tiredness and fatigue in the morning, caring less and callous towards patients. There was a significant correlation between the symptoms of stress and the amount of burnout rated by the respondents (Bakshi et al., 2017).

Also, the results of the present study are consistent with those from Adzakpah (2016) among nurses in hospital settings, which suggest that work-related stress level among certified registered anesthetists is a key concern in the health care settings.

According to Embriaco et al (2011), working in the intensive units and anesthesia department has been proven to be more stressful than other departments. With procedures like intubation and inductions of anesthesia, anesthetists go through so much stress with signs and symptoms like palpitation, tachycardia and other circulatory system symptoms.

Studies also showed that on-call doctor anesthesiologists were ranked as the most stressed group and their level of stress is high among them (Koshy et al., 2011).

5.3 Factors associated with stress

There was no significant association between stress and gender, age, marital status, rank, income, number of dependents and number of part time jobs. Significant association was found between stress and type of health facility.

The significant association between stress and type of health facility can be explained by the fact that if the facility type is a referral center, most patients would be referred there, hence the workload can be too much for the CRAs to bear. Moreover, the type of health facility depends on the locality, if it is located in a densely populated area, the more patients the CRAs would attend to hence the stress level. For example, at Korle-Bu teaching hospitals, which is a referral center, the CRAs see more clients than other hospitals.

Bhutani et al. (2012) in their study includes physicians in private organizations who had more compassion and satisfactions than those in government facilities. This is due to the fact that there are poor working conditions and the unavailability of standard equipment or resources in government hospitals.

Lederer et al. (2006) in the study on the influence of working conditions on burnout on anesthesiologists revealed that even though the conditions at the workplace were not the

main factors, the anesthesiologists with high demand on better workplace condition has a higher risk of developing stress syndrome. (Lederer et al., 2006). The study findings also revealed a significant association between work-related stress and working with inadequate or sub-standard equipment. This means that lack of adequate equipment to work with, makes the work difficult hence the stress level CRAs experienced.

The following factors were not significantly associated with stress in the logistic regression; working alone on difficult cases, having heavy workload per shift, negative outcome of patients, appropriate or qualified theater staffs, supervisions by senior colleagues, not being recognized for doing a good job, freedom of choosing one own methods or techniques, payments of overtime allowance and dissatisfaction with other theater staffs. These factors may be true for not associating to stress but can lead to other causes of ill health or cause lack of motivation to achieve a desirable result.

According to Kokoroko et al (2019), who did a study on the causes and effects of stress on job performance among nurses in Komfo Anokye Teaching Hospital (KATH) identified that workload was the major cause of stress among nurses in KATH (Kokoroko & Sanda, 2019). Workload is a condition in which an individual is faced with so many loads of work to handle. Nurses who always have a heavy workload per shift, may not be satisfied with his/her job hence this can lead to lack of motivation of getting a high-quality performance at work. However, supervision contributed to 17% of the stress among the nurses in KATH because of lack of proper feedback. Equipment or logistics also accounted for 4.29% of stress among the nurses but there was no information about the type of facility.

However, Jenkins and Wong, (2001) also found that time constraints, interferences with home life, medico-legal concerns and clinical problems were the main factors contributing to stress (Jenkins & Wong, 2001).

5.4 Work-related stress coping strategies among CRAs

The study found that the majority of the CRAs adopted the following work-related stress coping strategies which include; denial of guilt, substitute gratification, Situation control, escape, positive self-instruction, peer support/spending time with family and friends, reaction control and resignation.

These are in order because without these strategies, individuals can be affected with serious sickness like hypertension, diabetes, strokes and the rest. Individuals can meet their untimely death if care is not taken.

Coping strategies for denial of guilt means individuals think they are not responsible for the stress situation thus, they tend to deny it. Again, substitute gratification means individuals go for things they desire for a longtime that they didn't get the time for like going for vacations or picnics to relax. Situation control means the individuals plan to control the difficulties involved, positive self-instruction means the individuals encouraged themselves that they can cope with the stress, peer support/spending time with family and friends means talking to someone about the problem, reaction control means telling themselves that they must not lose their temper while escape means tending to run away from the situation and resignation means giving up with feelings of helplessness or hopelessness or tend to give up.

From Hassan et al. (2006), in Negative stress-coping strategies among novices in surgery correlate with poor virtual laparoscopic performance, each of the items were place on a five-point Likert scale and participants were asked to choose how they deal with their stressful situations in general (Hassan et al., 2006). The coping stress strategies were grouped into four major areas which are 'devaluation' which consist of denial of guilt, 'distraction' consists of distraction and substitute gratification, 'control' which consist of situation control, reaction control and positive self-instructions which are positive in effect (reduction of stress) and 'negative strategies' which consists of escape, need for social support and resignation are for negative in effect (increase in stress). According to Hassan et al. (2006), the participants adopted these coping stress strategies in order to cope with their stresses (Hassan et al., 2006).

Among nurses in KATH, the major tool in managing stress was getting enough sleep which is a good measure in managing stress. It makes the individuals forget about their problems and make them feel better by relaxing their minds, and also make them stronger in dealing with any stress they come across(Donkor, 2013). Again, Donkor (2013) stated that participants indicated that having enough rest (44.29%), taking days off from work (34.29%), getting regular checkup and discussing their issues with people (7.14%) and having regular exercises (10%) helped to reduce stress among nurses at KATH (Donkor, 2013).

Some other findings from a Nigerian study include; resorting to hobbies, identifying the origin of the stress and avoiding unnecessary burnout, trying to manage the time better, adjusting to the standards and attitudes and trying to voice out any issues instead of keeping them (Onasoga, et al 2013).

According to the findings from Adzakpah (2016) about occupational stress management strategies among nurses, it was confirmed that some of the nurses seldom went on break, had their regular exercises or had yoga by relaxing their nerves or meditating on themselves (Onasoga et al 2013).

5.6 Study Limitation

Though this study has achieved some significant results, it has some limitations. First of all, the results of this study cannot be generalized to all CRAs in Ghana since it was only conducted in the Greater Accra Region. Also, this study used a small number of CRAs for the entire region because of logistical and participant recruitment challenges.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0. Introduction

This final chapter of the study gives us simple conclusions of the work regarding the objectives. Furthermore, this chapter again gives a detailed recommendation based on the findings to the policymakers, Ghana health service/ Ministry of Health and the CRAs.

6.1. Conclusion

The results from the study showed that the majority of CRAs in the Greater Accra Region had moderate stress levels. From the ordinal logistic regression model, only type of health facilities and working with substandard equipment were significantly associated with stress in both the unadjusted and the adjusted proportional odds from the model. Other factors like, working alone on difficult cases, having heavy workload and some of the sociodemographic characteristics such as gender, age, rank, income level and number of dependents, number of part time jobs were not significant.

Finally, the majority of CRAs adopted some work-related stress coping strategies like denial of guilt, substitute gratification, situation control, reaction control, positive self-instructions, escape, peer support/spending time with family and friends and resignation to diverge their stress to.

6.2 Recommendations

Due to the moderate level of work-related stress among the certified registered anesthetists, the following recommendations were made.

6.2.1 Policymakers and implementers

1. The Ministry of Health through Ghana health service, CHAG and Private health organizations should organize educational programs and counseling for the certified registered anesthetists in order for them to be aware of the high demands on their job. With this type of education and guidance, they will understand the demands of their job description.

2. The working environment should be well structured where the medical directors can motivate the CRAs, provide them with adequate and standardized resources to work with, and have easy access to other information necessary for the work. These will make the certified registered anesthetists be well prepared psychologically to improve their autonomy, confidence and strength, hence making them add value to their work. These will surely result in job satisfaction, a sense of personal accomplishment and less work-related stress

3. The Ghana Health service/CHAG/ Private Health organizations should recruit adequate and qualified staff in rendering their duties. And again increase the salaries of the CRAs in order for them to stop their locum activities.

6.2.2 Certified Registered Anesthetists

1. The head of departments for the certified registered anesthetist should make sure the workload is not excessive. The CRAs should always be paired on duty to prevent working alone on difficult cases.

2. The duty roster should also be made flexible for every staff on duty in order to release the stress on them.

3. The certified registered anesthetists should also reduce their locum activities and concentrate on their official work. Even if the salary is not enough, negotiations with the government to increase the salary can be done.

6.3 Further research

Further studies are needed to be conducted in Ghana on work-related stress among CRAs. Whilst there is sufficient evidence in several other countries to believe that work-related stress is a factor among health care personnel, there is not much information on the situation in Ghana. Researchers are then needed to add up to the knowledge of stress and its adverse effects in Ghana. This study was conducted in only one region out of 16 regions in Ghana, therefore more comprehensive scope and methods should be used to further explore this important topic.

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Appendix 1: Participant's information sheet

Title of Study: Work related stress among certified registered anesthetists in Greater Accra region.

Introduction: I am Dorcas Edem Mavis Sabblah (Principal Investigator), an MPH student of School of Public Health, University of Ghana. I am undertaking this research in partial fulfillment for the award of a Master of Public Health. My contact details are, Tel: 0244544334 and Email: dorcsab@yahoo.com.

Background and purpose of research: Stress is anything that puts individuals into a state of physical, and psychological imbalances. Stress can occur in people at different locations and at different times. Stress has a great impact on the health of every individual who work to earn a living. (Will Joel Friedman, 1976). The impacts of stress on people at different level of work is very important to address. The stress that is associated with work, especially with anesthetists, is very alarming. This stress makes individuals unable to perform well at work, projecting of anger from work onto their households, committing errors at their workplaces, commitment to work is bad and sometimes depression set in leading to suicidal attempts when the stress level persists for a longer period of time

Nature of research: This is a quantitative cross-sectional study design in assessing the work-related stress among certified registered anesthetists (CRAs) practicing in the Greater

Accra region gazette by the Medical and Dental Council.

The study aims to assess the work related stress and stress level as well as to identify the most common stressors, the coping stress strategies and the effects of stress among CRAs in Greater Accra region

The findings from this study will address the stress the CRAs are experiencing at work and it will serve as a guide to policy makers, government, non- governmental organizations and Private health organizations in dealing with stress management and occupational stress counseling. This will enable them to make appropriate laws governing the health and safety of workers in Ghana.

Participant's involvement

Duration / what is involved:

Participants are required to be 20 years and above. Your participation in the study will require you answer certain questions on socio-demography (age, sex, marital status, income level, number of dependents, rank/grade and the type of institution, behavioral factors (lack of sleep at night and too much locum) motivational factors (intrinsic and extrinsic factors), level of stress.

The principal investigator will do the administration of the questionnaires.

Potential Risks:

Minimal risk is anticipated since some questions might be discomforting. You may however choose not to answer questions that appear discomforting to you.

Benefits:

There is no direct benefit participating in this study. The findings from this study will however contribute to the knowledge of the policy makers and ministry of health.

Costs: There will be no cost for participating in the study.

Compensation: There is no compensation for participating in this study.

Confidentiality:

We will protect information about you and your taking part in this research to the best of our ability. The information will purposely be used for research and will not be used against you. Your name will not be captured on the questionnaires and neither will you be named in any of our reports. The Principal Investigator and supervisor will sometimes review the research documents, but no unauthorized person will have access to your information.

Voluntary Participation/withdrawal:

Your participation in this research is voluntary and you are at liberty to withdraw from the study at any time and it will not affect you in any way. During the interview, you also have the right not to answer questions that are not comfortable to you.

Outcome and Feedback:

Data collected will only be used for this study. No feedback on the data will be given to participants.

Feedback to participant:

No direct feedback of findings will be communicated to participants. However, recommendations from the findings of the study will address the stress the CRAs are experiencing at work and it will serve as a guide to policy makers, government and non-government organizations and other organizations in dealing with stress management and occupational stress counseling. This will enable them to make appropriate laws governing the health and safety of workers in Ghana.

Funding information: This research is self-financed by the Principal Investigator.

Sharing of participants Information/Data:

Data generated from the study will only be used for the purposes of this research. The Principal Investigator will own the data and only the team members of the research will have access to the data. No unauthorized person will have access to participants' information. Should the research be published at any point in time, clearance will be obtained from the Ethics Committee of the Ghana Health Service.

Provision of information and consent for participants

A copy of the Information sheet will be given to you after it has been signed or thumb printed to keep.

Who to Contact for Further Clarification/Questions: If you have further questions or issues regarding this study, which require clarification, you may contact: Dorcas Mavis Edem Sabblah (Principal Investigator) – 0244544334. Dr. Albert Stabile, University of Ghana (Supervisor) -+61406461957.

This research has been reviewed and approved by the Ghana Health Service Ethics Review Committee. If you want further clarification on ethical issues and your right as a research participant, you can contact the Ghana Health Service Ethics Committee Administrator, Dr. Hannah Frimpong on 233021681109 or email address Hannah.Frimpong@hrughs.

Appendix II: Consent form

Title of the study:

Work related stress among Certified Registered Anesthetists in Greater Accra Region

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants'

Information Sheet read and satisfactorily explained to me in a language I understand

(English ☐ Twi).☐ I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed this form.

I voluntarily agree to be part of this research.

Name or Initials of

Participant…….

ID Code ……

Participants' Signature …… OR

Thumb Print…… …….

Date…….

INTERPRETERS' STATEMENT

I interpreted the purpose and contents of the Participants' Information Sheet to the afore named participant to the best of my ability in the Twi language to his proper understanding. All questions, appropriate clarifications sort by the participant and answers were also duly interpreted to his/her satisfaction.

Name of Interpreter…….

Signature of Interpreter……

Date…….

Contact Details…….

STATEMENT OF WITNESS

I was present when the purpose and contents of the Participant Information Sheet was read and explained satisfactorily to the participant in the language he/she understood (English □ / Twi). I confirm that he/she was given the opportunity to ask questions/seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name…….

Signature…….

OR Thumb Print …….....

Date…….

INVESTIGATOR'S STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study.

All questions and clarifications raised by the participant have been addressed.

Researcher's name……

Signature……

Date…….

Appendix III: Questionnaire

Work related stress Among Certified Registered Anesthetist in Greater Accra Region

CONSENT TO PARTICIPATE

This questionnaire is part of a research study being conducted to assess the work related stress among Certified Registered Anesthetists in the Greater Accra Region. This exercise is purely for academic purposes and any information obtained shall not be passed on to third parties. Total confidentiality and anonymity of responses are guaranteed. Participants are free to opt out of the study anytime should they decide they no longer want to be part of it anymore. Thank you very much.

PART I: SOCIO-DEMOGRAPHIC DATA

1. Gender

   Male

   Female

2. Age

   20-30 years

   31-40 years

   >40 years

3. Marital Status

Single/Cohabiting

Married

Divorced/Separated

4. How many children do you care for at home?

0-2

2-4

>4

5. Income level

1,500-2,500

2,501-3,500

3,501-4,500

>4,500

6. Rank/Grade

Certified registered anesthetists (CRAs)

Senior registered anesthetists (SCRAs)

Principal registered anesthetists (PCRAs)

Deputy Chief certified registered anesthetists (DCCRAs)

7. Number of years of experience (Years)

0-3

4-7

7-10

>10

8. Type of Health facility

District hospital

Regional hospital

Teaching hospital

37 Military hospital

Quasi/polyclinic/private

9.. How many hours of work?

<40 hours

41-50 hours

51-60 hours

>61 hours

10. How many part time jobs

0-1

2-3

>4

PART 11: WORK-RELATED STRESS LEVEL

For each of the following statements/questions, indicate how much/often they influence your work-related stress level.

1=Never 2=Rarely (once/twice a year) 3=Occasionally (at least once every quarter)

4=Frequently (at least once every month) 5=Always (at every shift)

11. Have you ever felt incapacitated or overwhelmed by work related stress?

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

12. Do you feel tired and fatigued in the morning and hate to face another day at work?

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

13. At the end of a working day do you feel used up/drained from work?

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

14. At work do you feel positive/energetic and in control of your surroundings?

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

15. I find it difficult to tolerate interruptions while I am working.

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

16. I am intolerant to any hindrances to things I want to do.

    1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

17. At work, do you feel that you have started caring less, or become indifferent or even callous towards your patients?

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

18. In your opinion, would you say there is a high level of stress among certified anesthetics in the Greater Accra region?

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

19. I worry that I might find myself in situations in which I might panic and make a mistake at work.

1 [ ] 2 [ ] 3 [ ] 4 [ ] 5 [ ]

PART III: WHAT ARE THE FACTORS ASSOCIATED WITH WORK-STRESS AMONG CRAs

For each of the following statements/questions, answer the questions with Yes and No indicating whether these factors cause your work-related stress.

20. Do you encounter negative patient outcomes at work (e.g., death or permanent disability)?

1. Yes [ ] 2. No [ ]

21. Do you have to work with inadequate or sub-standard resources, equipment and supplies?

1. Yes [ ] 2. No [ ]

22. Are the appropriate and qualified theater staff available when you need to work? (Scrub nurses, surgeons, etc.)?

1 Yes [ ] 2. No [ ]

23. Are you supervised by a senior colleague at work? (Senior CRA or Physician Anesthetist)?

1 Yes [ ] 2. No [ ]

24. Do you work alone on difficult cases or on cases where you need assistance?

1. Yes [ ] 2. No [ ]

25. Are you given the freedom to choose your own methods and techniques at work?

1. Yes [ ] 2. No [ ]

26. Is your workload heavy per shift? (i.e., >4 cases per shift)?

1 Yes [ ] 2. No [ ]

27. Are you recognized for doing a good job at work? (e.g., managing very difficult cases with good outcomes)?

1. Yes [ ] 2. No [ ]

28. Are you paid overtime allowance for working more hours than your shift requires in a day?

    1 Yes [ ] 2. No [ ]

29. Are you dissatisfied with other theater staffs' attitudes toward you?

    1 Yes [ ] 2. No [ ]

PART IV: COPING STRESS STRATEGIES

Please indicate how often you utilize each of the following coping strategies to manage your work-related stress:

KEY: 1 - Never 2 – Rarely/ Sometimes 3 - Very often

30. Denial of guilt. (eg. I think that I am not responsible for the situation)

    1 [ ] 2 [ ] 3 [ ]

31. Substitute gratification (eg. l give myself something that l desired for a long time)

    1 [ ] 2 [ ] 3 [ ]

32. Situation control. (e.g. I plan how to solve the difficulties involved)

    1 [ ] 2 [ ] 3 [ ]

33. Reaction control (e.g. I tell myself that I must not lose my temper)

1 [ ] 2 [ ] 3 [ ]

34. Positive self-instructions (e.g. I tell myself that I can cope with this)

1 [ ] 2 [ ] 3 [ ]

35. Escape (e.g. tend to run away from the situation)

1 [ ] 2 [ ] 3 [ ]

36. Peer support/ Spending time with family and friends (e.g. (I try to talk to somebody about the problem Self-blame Attribute stress to one's mistakes (I blame myself).

1 [ ] 2 [ ] 3 [ ]

37. Resignation: Give up with feelings of helplessness or hopelessness (e.g. tend to give up)

1 [ ] 2 [ ] 3 [ ]

Thank you for participating.